

FINANCIALTIMES

PUBLISHED IN LONDON AND FRANKFURT

No. 27,968

Tuesday September 18 1979



CONTINENTAL SELLING PRICES: AUSTRIA Sch 15; BELGIUM Fr 25; DENMARK Kr 4.25; FRANCE Fr 3.5; GERMANY DM 2.0; ITALY L 700; NETHERLANDS FI 2.0; NORWAY Kr 4.25; PORTUGAL Esc 35; SPAIN Pts 60; SWEDEN Kr 3.75; SWITZERLAND Fr 2.0; EIRE 2018

BUSINESS

 $\$8\frac{3}{4}$;

Gold up

Equities

subdued

● GOLD rose \$8 to 2 record close in London of \$352 .

• EOUITIES were subdued, but

rallied slightly near the close

and the FT ordinary index

• GILTS weakened, with losse

of ? in longs. The Government

APR MAY JUN JUL AUG SEP 1979

Securities index fell 0.49 to

o STERLING fell: sharply closing 1.7 cents down at \$2.1515 and its trade-weighted index fell to 68.4 (69.2). The dellars' index was unchanged at \$5.0.

• WALL STREET was 261 up at 883.11 just before the close.

• ITALIAN inflation has returned to an annual rate of

against both Japanese and East

margin on Japanese roller bear-

Chrysler chief

seeks retirement

. CHRYSLER chairman, Mr.

John Riccardo, has said he will

ask the company's board to

chances of the company secur-

ruptcy. Back and Page 4

GUEST KEEN

distributor of industrial and motor components, Unigep, marking GKN's entry into the automotive business on the Continent. Back Page

 RENAULT group's engineering division has won a FFrs 230m (£24.27m) contract to build a network of 23 lorry

service stations in Saudi Arabia.

● L'OREAL, the French cos

● MERRETT DIXEY Syndi-

troubled Sasse syndicate. Page

• UNITED BISCUITS pre-tax

14 fell from £18.6m to £16.1m

on sales up from £362.78m to

raised pre-tax profits for the six

months of 1979 from £6.31m to

£7.25m on turnover of £133.97m

(£109.34m). Page 21

SIMON ENGINEERING

6; Reforms likely Page 16

Page 4

closed 1.7 down at 466.0.

72

71

GENERAL

Tories axe quangos

ment Secretary, announced the dishanding of 57 organisations in the first large-scale pruning

But the scrapping of almost half the Department of Environment-sponsored quangos-quasi organisations—will result in an immediate agrical saving to the public purse of only £1.4m.

Mr. Heseltine named a further batch of 21 quangos to be scrapped "in due course." Most of these are New Town bodies which are, in any case, due to be wound up when their powers are transferred authorities. Page 6

Swedish election result tentative

Olof Palme, the Swedish Sociel Democrat leader, will not know until tomorrow whether he can return to the Prime Minister's office from which he was ousted three years ago. About 38,000 uncounted postal votes and 2,000 ballot papers from Swedes abroad may still deny him the narrow victory he appeared to have won in Sunday's general election. Page 2; Editorial comment Page 16

Death claim

Tarakki an dtwo sacked Cabinet returned to an annual rate of 15 per cent with retail pieces ministers may have died in a rising by 1 per cent in Augistication battle inside the Presidential palact two days before Page 2

Tarakki's resignation was announced, according to diplomats in Rabul Page 3

Treasure probe

The UN diplomat in charge of aid to refugees in Cyprus offered to resign after police seized valuable substitutes from his Nicosia home. But the UN High Commissioner for Refugees in Geneva ordered a full inquiry before reaching a decision.

Peking poster call The staff of China's most radical unofficial magazines, Explora-

tion, stuck a poster on Peking's -Democracy Wall urging the Government to avoid further classes with Vietnam or the

Race row fears

A bus boycott by thousands of black workers in Natal, protesting against fare rises, spread to the outskirts of Durban, with fears that the peaceful demonstration could easily become

Police taunted

Jacques Mesrine, the elusive French criminal, taunted police by supplying photographs of his newspaper, Le Matin, in aPris. They showed the man lying naked an scarred, with fresh bullet wounds in a disused

Typhoid suspect

Police were still searching for Yunus Karakukulah, also known as Mustapha Yelderim, a Turkish chef who disappeared from a South London kebab bouse after lesis for typhoid. Further tests and needed to give him a clean

Briefly ...

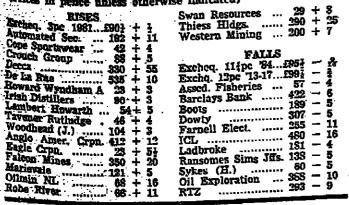
Customs men and police seized 11 tons of cannabis resin worth nearly £2m after a sea chase off the Cornish coast

Louden Transport reached agreement with the rail unions on the introduction of one-man train operation on two of its Underground lines. Back and

U.S. Navy vessels landed 65 Vietnamese at Subic Bay in the Philippines and aircraft spotted hine more adrift in an open

Caba released the last four U.S. citizens, held on political charges since the mid-1960s.

CHIEF PRICE CHANGES YESTERDAY Prices in pence unless otherwise indicated)



New talks today in bid to end engineering dispute

BY NICK GARNETT AND ALAN PIKE

The first formal negotiations for more than two months in the national engineering dispute take place today after preliminary discussions yesterday at the Advisory Conciliation and Arbitration Service.

talks again under the auspices today. This could be a further of ACAS, on minimum pay source of delay to a settlement. rates, ways of implementing any new agreement and the "length of working time."

There were considerable indications that the unions might be dustry returns to normal work-prepared to take a more flexible ing. This followed overwhelmview on shorter hours than the demand for a 39-hour week in the claim.

Union officials emphasised that there must still be some form of specific reduction in working hours, and that an offer of improved holidays, already part of the claim, would be insufficient to reach a settlement on this matter. Employers have so far been

adamant that they will not reduce the working week. The unions considered that the employers' apparent deci-sion not to make endieng of industrial action a pre-condition for further negotiattions was a

step forward.

discussions on an agenda for industrial action to any new today's meeting, which involves offer they might wish to make

Rolls-Royce carried out its threat to shut all its nine plants and lay off its total 30,000 manual workers until the ining. This followed overwhelming adherence by workers to the first day of the third two-day national strike.

The company said it could not operate any of its plants commercially because of the dispute, and Mr. Dennis Head, managing director of the aerospace division, said the company had, "very real fears" of losing orders to competitors.

Today's strike again received overwhelming support in almost all areas of the country. Groups of workers who decided to defy the strike, including those at Plessey's Swindonplants, were relatively small. After yesterday's talks Mr..

There were signs that nego- Terry Duffy, president of the tistors for the Engineering Amalgamated Union of Engin-Employers' Federation might tie eering Workers said the position

The two sides agreed in those some conditions on further looked more hopeful than at the

The question of a 39-hour week was now "in the melting pot." He referred to the need to secure a 46-hour reduction in the yearly "working time."

In his address at the opening of the AUEW national conferenc ein Eastbourne before the ACAS talks yesterday, he again stressed the need for a reduction in working time.

"It is imperative that we adopt the simple trade union principle of ensuring that manhours available are shared whereever possible.

"It would appear that we are leading the struggle to maintain a fair and equitable society, but it also seems that the employing class are determined to intro duce new techniques with no reduction in working time." On pay, the unions have

sought a minimum craft rate of £80, and been offered £70 and pro rata increases for other rates. Union officials believe employers might be prepared to offer £73 or £74.

AUEW conference, Page 8

Big shortfall in Britain's energy supplies predicted

BY RAY DAFTER, ENERGY CORRESPONDENT

European manufacturers of bearings. Intensive monitoring of bearing prices in Western Europe has shown a 35 per cent BRITAIN'S energy supply problems towards the end of the century will be far greater than ings entering the EEC. Back previously forecast, according to a new Government report. A fresh review of the energy

balance shows that by the end of the century the UK could be mporting the equivalent of 105m tonnes of coal a year. This is a ignificant shift from

the Government forecast made only last year that indicated Britain could still be energy self-sufficient in the year 2000. It was thought that even on the grant him instant early retirement so as to improve the assumptions imports worst would not rise above the equivalent of 45m tonnes.

ing Federal loan guarantees to stave off the threat of bank-The new figures are presented by the Energy Department in its evidence to the public inquiry into the National Coal • BP CHEMICALS chief has warned that profits could be hit hard by a flood of cheap U.S. petrochemical imports coming Board's plans to sink three large mines i nthe Vale of Belvoir, in

North-east Leicestershire. on to the European market. NETTLEFOLDS is negotiating to buy from Unilever the French

UK ENERGY BALANCE IN THE YEAR 2000 (m tonnes of coal equivalent) SUPPLY: 1978 estimate-50-90 150

Nuclear/hydro Natural gas Indigenous oil Renewable sources SUPPLY: 1979 estimate-Total

DEMAND: 1978 estimate-Total DEMAND: 1979 estimate-Total

rent level of around 120m tonnes a year. Towards the end of the century output could be as low as 80m tonnes.

It is thought that the Governcapacity, colliery production in Britain's domestic energy sup-1990 would fall below the cur- ply in the year 2000 falling

below the levels foreseen in the Energy Policy consultative document, published by the Energy Department last year. The 1978 Green Paper

reported that UK energy demand could be between 450m and 560m tonnes of coal equivalent a year in 21 years. The Energy Department's sub-mission to the Belvoir inquiry indicates that the demand might not rise above 445m to 515m tonnes of coal equivalent.

The new forecasts are much more pessimistic over domestic supplies of fuel. The Depart ment doubts whether indigenous production can supply more than 385-410m tonnes of coal equivalent as against the 475-515m tonnes foreseen in the Green Paper.

It is thought that about half of the drop in forecast output is The Department warns that ment's more cautious view of without early and continuing investment in new coal mining in the country of the country of the country in the covern accounted for by lower coal production; the other half from major reason why it sees

Editorial comment, Page 16

Telephone charges to go up

Office not to make major rises

The main October rises are:

this year.

up from £5 to £8.

charge going up to 5p.

The first stage takes effect

The first stage takes effect for some time, but there is per cent. from October 29. It will involve certain to be some discussion These, together with other charges for connections, telex on whether the October minor increases, will bring in charges, and charges for private increases are "major." in view some £14m in the current year, metics company, has launched a second bid for the U.S. com-pany Helena Rubenstein. Page circuits. The rise in connection charges will be weighted toward business users. cates, the Lloyd's underwriting agent, is to stop acting for the The second, and major, stage,

takes effect from January 1, and will include call charges, rentals, and coin box tariffs. The rises will be the first for most services since 1975. They are designed to cover the effects of inflation since then, and are apparatus will go up on average profits for the 28 weeks to July not related to the recent industrial action by computer oper-ators, which prevented ators, which prevented telephone bills being sent out, £402.84m, but directors expect a better second half. Page 18

and edversely affected Post 20 per cent in an attempt to Office revenue flows. The rises will be considered year, it lost £14.3m.

TELEPHONE charges will rise by the Post Office Users' Private circuits, where sub-in two stages over the next four National Council and will not stantial losses have been made mouths, with the 2p coin box be officially announced for some on the shorter distance circuits. weeks. They have been expected will rise by a maximum of 50

of the commitment by the Post and £81m next year. The main January increases

• Call charges will go up from Charges for new exchange 3p to 3.5p per unit, an increase lines will go up from £45 to of 17 per cent. The higher unit £55. The charge for taking over fee will apply with existing time

an existing installation will go Rental charges for an exchange line will go up by £6 to £45 a year for a business • Connection charges for by 53 per cent, with the sharper line, and by £5 to £38 a year for a residential line. In spite of the increases-up to 120 per centcharged on business apparatus. increases, rentals will continue to run at a loss. • Telex charges will go up by Apparatus rentals will go up make the service profitable. Last by a maximum of 50 per cent,

Continued on Back Page

Lloyd's of London: troubles likely to lead to reform European plastics: industry's salad days Management: less haste, more speed at Cunard 13 Film and video: switching to channel

5 14

Lombard: full disclosure by the banks, by Michael Lafferty 14 Editorial comment: Swedish general election, the energy gap 16 EEC dairy production: milk surplus could ruin farmers 27 Survey: Telecommunications ... (inset)



against the\$

Sterling slide continues

By Peter Riddell, Economics Correspondent

STERLING fell sharply yester-day against other leading currencies fo rthe sixth trading day in succession. The authorities in London appear fairly relaxed about the decline and no action

is being considered.

There is, however, some concern about the size of the movements during the day, as opposed to the extent of the overall change, and there has been regular smoothing intervention to allow commercial business to be done in as orderly a way as possible.

The pound at one stage yes terday had fallen by more than four cents in a few hours to a low of \$2.1260, more than 12 cents lower than at the beginning of last week. Dealers reported buying after the New York opening and in

two-day trading the rate rose to close 1.70 cents down at \$2.1515. The trade-weighted index touched a low of 67.8 at noon before closing 0.9 points down at 68.4. The fall since early last week was 41 per cent and 71 per cent since July.

These falls have only partially offset the big mid-summer appreciation and the pound is still higher than it was on the Budget day, June 12. The recent decline can be

explained by a delayed reaction to the earlier widespread feeling that the pound had risen to too high a level coupled with the more imediate impact of a narrowing in the interest rate gap between London and other centres, especially New York. There has also been some switching into D-marks caused by speculation both about a realignment of currencies

within the European Monetary System and about early UK participation. It is highly unlikely that sterling will join in Continued on Back Page Monyey markets, Page 25

Lex, Back Page

in New York Sept, 14

\$2,1640-1650 \$2,2005-2020 0,47-0,40 dis 0,42-0,38 dis 1.07-1.00 dis 0,98-0,92 dis 3,50-3,40 dis 3,40-3,30 dis

Carrington in move to save

by Bridget bloom and Michael Holman

LORD CARRINGTON, Foreign reassure white members of Secretary, will today begin bi-lateral talks with the two oppos-and the lunch break between House constitutional talks from He has formally decided to

open separate talks with the two rival groups because pre-liminary discussion yesterday of the main constitutional pro-posals is now deemed complete. However, the main reason

for his decision appeared to be the effect on the conference of the growing split between black and white members of the Rhodesian Government delegation which last night threatened to deadlock the whole settlement attempt. The talks entered their

second week yesterday with two full working sessions, but Bishop Abel Muzorewa's delegation, though present, took no part at all in the afternoon deliberations. The critical problem is that stitutional

that a white parliamentary veto, is the only effective safeguard for the white minority in a new independence constitution.

It is increasingly clear that this view is shared neither by Bishop Muzorewa, nor by most, if not all, of the other black members of his delegation. Failure to resolve this dispute

in spite of intensive discussions over the weekend left the Salisbury delegation playing a muted role at yesterday's talks.

Safeguards

The Foreign Secretary, in both the morning and afternoon sessions, repeated British objec-Rhodesian settlement constitution. He opposed particularly the veto accorded the 28 while members of the 100-seat Parliament and the powers whites enjoy in the public service

No other African independence constitution contained about." such provisions, although Lord Carrington acknowledged that there should be minority safe-guards including white parliamentary representattion and a

Bill of Rights. He also challenged features of the Patriotic Front's outline constitutional proposals, particularly their failure to provide for white members of Parlia-ment, which he believed was necessary in Rhodesia's special

circumstances. However, Lord Carrington's clearly failed to

Rhodesia talks

ing Rhodesia delegations in an sessions apparently did little to effort to save the Lancaster resolve the delegation's internal differences. Morning and afternoon session were both concerned with a

point-by-point examination of the likely areas of disagreement was clear that without the participation of the Salisbury delegation, no real progress could be made.

Hishop Muzorewa's delegation wanted the conference to move to bilateral talks with Britain, partly to keep the internal disensions out of the public eye, but also to allow Mr. Smith to test for himself Britain's determination to divest whites of their political veto.

Concessions

Yesterday's session for the first time covered issues of con-The critical problem is that stitutional substance. It Mr. Ian Smith, the former emerged, for example, that Rhodesian Premier, still insists Britain will consider the Patriothat a white parliamentary veto, tic Front's proposals that accompanied by dominance of Rhodesia should be a republic the public service commissions, with an executive president. Other areas of certain future conflict were the role of whites in Parliament and in the service commissions.

The lesson from yesterday's session was apparently that no real progress is posible until the Salibury delegation decides what concessions it is prepared

They key question last night was whether or not Mr. Smith's hard line views are fully shared by his white colleagues both in London and in Salis-

Mislead

at the Battle of Britain commemorations at the weekend was "regretted" last night by Mr. David Steel, Liberal Party leader.

He said: "It was likely to mislead us as to what it was all

"It was not just about our side meeting the others. It was about the maintenance of a free and democratic society, and against the threat of takeover of our country by an alien minority imbued with ideas of their own superiority.

"Sadly, it was Mr. Smith's lack of atachment to these principles which led his country first into the treachery of UDI and then into the tragedy of the present bloody war there." Men and Matters, Page 16

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£150m EEC loans will boost jobs, investment

By Guy de Jonquieres, Common Market Correspondent in

THE FIRST loans from the EEC's new 1bn units of account (£640m) lending facility. intended to aid investment and reduce unemployment in the community, were announced

here yesterday. Britain will receive £66.3m of the almost £150m disbursement in the initial rounds of loans. Most of it £50m, will be lent to the Electricity Council to help finance a £420m hydroelectric power station at Dinor-

The remainder, £16.3m will be loaned to Lothian Regional Council to help finance projects worth £76m to improve water supplies in Edinburgh and Midlothian and to reduce pollution in the Firth of Forth. Both loans have a 15-year term.

Ireland will receive £58m towards electricity, water, road-building and telecommuni-cations projects. The rest of the loans, worth L45bn will be made towards water supply pro-jects in southern Italy.

The lending facility, whose official title is the New Community Instrument for Borrow ing and Lending, is intended to supplement financing available from other EEC sources in selected sectors.

It was first proposed by the European Commission in April, 1977. In approving it, the Council of Ministers directed earlier this year that the first tranche of loans, worth 500m units of account should be for infrastructure development and energy

Borrowings to fund the loans will be raised on the capital markets by the commission, which rules on the eligibility of loan applications. Interest rates and other terms applying to loans will be comparable to those required by the European Invest-

Finns plan balanced budget

By Lance Keyworth in Helsinki THE FINNISH budget for 1980 promises something for every-one, but not enough to satisfy anyone except perhaps the farmers. It is balanced at FMKS 48.9bn (£5.7bn) with the aid of FMKS 5.5bn in loans which the Government proposes to raise at home and abroad.

The main target is to reduce unemployment from the current 6.5 per cent to a maximum of 5 per cent in 1980. For this purpose, Mr. Ahti Pekkala, the Minister of Finance, proposes to use, directly and indirectly, about a sixth of total budgeted expenditure.

The need to keep inflation down to its present level of 7.5 per cent is also stressed. In order to encourage the unions to agree moderate wage settlements at the turn of the year, personal income tax, wealth tax deductibles are to be adjusted by 7.5 per cent to match inflation.

The turnover tax concessions for productive investment are to be prolonged until the end of

These reliefs will be neutralised by the increase in employees pensions premiums to be paid by employers, a 7.5 per cent increase in railway tariffs and a rise in excise tax on liquid fuels. The economic forecasts

attached to the budget indicate a distinct deceleration of growth rates in 1980. Gross national product will grow by 4 per cent against a 1979 estimate of 7 per cent, exports by 3 per cent in volume and 8 per cent in value, against 9 and 15 per cent fore-cast for this year. The corresponding figures for imports are 12 per cent (against 15) per cent. 21 (against 32) per cent. The balance of trade is expected to show a deficit of expected to show a deficit of Christian Democrats have com-FMKS 2.5bn (£290m) compared mitted themselves to the right with a surplus of FMKS 1.4bn of unionists to choose the union (£162m) in 1979.

APEL TELLS WASHINGTON TO SPEED UP OFFSET ORDERS

West German warning on AWACs

THE controversial airhorne warning and control (AWACs) scheme for NATO could be doomed unless Washington speeds up its offset it would place orders for a new orders to German industry, telephone system for its forces Herr Hans Apel, West Germany's Defence Minister has warned the U.S.

Herr Apel said in a radio interview that he intended to meet Mr. Harold Brown, U.S. Defence Secretary, and Congressional leaders at the end of September, to discuss the future of the scheme.

The AWACs aircraft is in effect, a converted Boeing 707 airliner. NATO plans to use it Europe, to warn against a pos-

HE HAS the respect of Chancel-lor Helmut Schmidt-but be-

tennis with a local trade union

leader. He made a career in

local and state administration-

but urges the individual, above

all, to stand up against bureau-

Even many West Germans would be hard put to give an

answer. Which is odd, since this

apparently contradictory figure has already played a key role in narrowing the differences between his own Christian

Democrat party (CDU) and its

Bavarian ally, the Christian Social Union (CSU) led by the

He is, in fact, Herr Lothar Spath, Prime Minister of the state of Baden-Württemberg for

just over a year, at age 41,

one of a new generation of German provincial leaders. It seems safe to predict that what-

ever happens to Herr Strauss,

who is opposition candidate for

the Federal Chancellorship in

next year's elections, Herr Spath

Spath and his predecessor, Herr

Hans Filbinger, could hardly be

more clear cut. Herr Filbinger

was the prototype of a German

of-the discovery of his activi-

ties as a Naval judge under the

Nazis towards the end of the

Second World War. It would be

more correct to say that he lost the state Prime Ministership

because he seemed unable to

bring himself to show remorse

for his war-time actions and to

Herr Spath retains the same

office-but there the similarity

Here is no lover of ceremony

opposition Christian Democrats

are stepping up their efforts to

attract the trade union vote

election campaign.

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before next year's Bundestag

In a move to woo union

General Secretary of the Chris-

tian Democrats pledged at the

weekend that the opposition

parties would support a "plura-listic" union movement. The

ask for public understanding.

has a bright future.

abrasive Franz Josef Strauss.

Who is he?

Germany agreed to pay almost two-thirds of the total cost. But in return for German participation, the U.S. promised in Germany and would buy

about 9,000 vehicles

Congress has yet to approve the offset element, and the U.S. has so far only placed orders for about 300 vehicles. The delays have irritated the Christian Democrat opposition which has threatened to block the DM100.4m (£24.6m) funds for Boeing which has had to allocated for the scheme in 1980

unless some progress is made

on the offset orders. A \$1.88hn (£839m) agreement on the scheme was reached last year after lengthy negotiation between the NATO allies. Under the accord, the U.S. and West

The rapid rise of a new

Christian Democrat star

BY JONATHAN CARR IN BONN

instant recall and delivered at

The key aim must be to drive

back the role of the state, but that can only be achieved if

people, instead of crying for

more cash or facilities from

above, are prepared to take on

more responsibility. This is the message he has been driving

home in a series of whistle-stop visits throughout the state, and

are no longer needed.

The 41-year-old

Prime Minister of

could emerge as

of the opposition

Baden-Württemberg

king-maker, if not king,

through radio and "phone-in-"

Not everyone is happy about the aims or the style. A small

booklet inspired by Herr Spath.

whom it was addressed. But

then Herr Spath should know

what he is talking about—as

former head of the finance

sion from his office in the fills construction outsides above Stuttgart, the state capital. It is often said that Herr He only entered the State quarters in Bonn, which in turn

gress had been quick indeed-

chairman of the CDU parliamen-

tary party for six years from 1972, State Interior Minister in

February last year and elected

state Prime Minister in August,

defeating a candidate whose

name was certainly more widely known, Herr Manfred Rommel,

Lord Mayor of Stuttgart and son

There are also some in his

This is an explicit challenge

to the authority of the Deutsche

tion's chairman.

Gewerkschaftsbund-the trade

Herr Geissler's frank commit-

of the war-time field marshal.

there is not just a bit too much

longs to an opposing political He has not only removed party. He quotes Mrs. Margaret many of Herr Filbinger's old

Thatcher's conservative philo-sophy with approval—but plays of laws and regulations he feels

the Federal Chancellorship in telling administration officials next year's elections, Herr Spath how they could improve relations with the public, aroused ire among many to

"Landesvater" — guiding his administration in the provincial people with a skilled hand but town of Bietigheim, until he with some apparent condescention from his office in the bills.

sion from his office in the hills construction businesses in

Filbinger stepped down because parliament in 1968 so his pro-

with Her Filbinger seems to end. own party who wonder whether

or discursiveness but a prag-matic political manager, small, charisma, and who look askance dapper, with facts and figures on at Herr Spath's evidently

purchase of 18 aircraft by the NATO countries.

pardise the long-term future of balance to the Soviet nuclear AWACS. The offset component weapons build-up (especially had played an important part in persuading the Germans to take have "Eurostrategic" weapons on a 30.7 per cent participation. Even so, doubts persist about reaching the USSR-stationed the overall costs of AWACs-including spares, training support and operation. The Iranian cancellation of seven AWACs air-craft has increased unit costs

shorten its production line. Herr Apel and Herr Dietrich Genscher, West German Foreign to create a permanent airborne radar umbrella over Western Europe, to warn against a possible Warsaw Pact attack.

A \$1.88bn (£839m) agreement

The Government now appears Minister, yesterday held talks with M. Henri Simonet, the opposition's view, and Herr sible Warsaw Pact attack.

Apel clearly intends to put substantial pressure on Washington.

excellent relations with many

Social Democrat deputies, who

Opinion polls appear to give

indicate that Herr Spath aiready

has the approval of a majority

of Baden-Württembergers - a

happy augury for him in the

State's election next spring. If

the polls are confirmed and Herr

Spath is handsomely confirmed

in office, then he will be in an

exceptionally strong position at national level too-virtually

independent of the outcome of

the Bundestag elections in the

How so? First, because

Baden-Württemberg is a state so powerful economically and

financially that it rode the last

recession better than most-in-deed it would almost be true to

say that, like Daimler-Benz, its

most famous industrial enter-

prise, it seemed to shrug the recession off. This gives the

state, and thus, its leader, a relatively strong induence at

Second, the Christian Demo-

crats in Baden-Württemberg

have one of the strongest of the

State party organisations, and one of the most successful.

Bluntly, there is precious little

that the party at national level

could do against the will of

the Baden-Württembergers-the

more so given the current

absence of a really strong party leader at CDU national head-

Third, the State's strength

and geographical position next

door to Bavaria (with which it

has much in common), has

given Herr Späth a key position

between Herr Strauss's Christian Social Union—which

exists only in Bavaria-and

Christian Democrats country-

decisive meetings on the vexed

issue of whether Herr Strauss

should lead the combined CDU-

CSU into next year's Bundestag

Strauss's

candidate for Chancellor.

national level

autumn of next year.

Christian Democrats in

State parliament.

opposition to

The attitude of the Benelux countries is particularly impor-Herr Apel made clear that a tant for West Germany because freeze could eventually jeo- although it wants a counterweapons build-up (especially the SS-20s), it is reluctant to -puclear missiles capable of

> It has made clear that other West European countries will also have to accept the stationing of these missiles before it makes a commitment.

No immediate comment on the outcome of the talks was forthcoming, but the issue is so delicate for both Bonn and the other West European countries that a firm decision is unlikely to be announced before the ATO summit in December.

Officials stress that mean-while, intensive diplomatic contacts will have to be made between Bonn and its allies.



Herr Lothar Späth . . . pragmatic, political manager

election-took place in Stuttgart. It is also true that Herr Spath has all along been at pains to ensure that, whatever happens, the two parties should not angrily go their separate ways, as has at times seemed

So if Herr Strauss becomes Chancellor late next year, it will be thanks to a united strategy over which Herr Spath has had an important influence. Herr Spath gives the Bavarian leader "a real chance."

Either, he says, Herr Strauss will push Chancellor Schmidt into adopting policies-for example, on defence and nuclear matters—which the Chancellor's own Social Democrat Party will not accept. Or else Herr Schmidt will yield to party presusre and Herr Strauss will have a good chance of exposing

Government's policy failures.

That, at any rate is the theory. helped open the way to Herr Herr Spath naturally did not Strauss as the opposition's suggest that the Chancellor might well steer a reasonable policy course and carry his party with him. But even if Herr Strauss loses, Herr Spath will hardly be blamed. On the contrary, it is likely that Herr Spath's own state success will stand out sharply as the Christian Democrats set about the task of finding a new national leader to replace Herr Helmut It is no secret that one of the Kohl, their present party chairman. That does not necessarily mean he will become CDU "king"-but he will be perfectly

Parties battle to win union members' votes

placed to act as "king-maker."

THE WEST GERMAN Social and have expressed opposition Herr Franz Josef. Strauss, have reassured the opposition Democratic Party (SPD) and the to the closed shop. leader of the Bavarian based parties. In meetings in Cologne Christian Social Union (CSU) as the official rival to Chancellor Helmut Schmidt at the 1980 union federation. Herr Geis- polls.

sler's position is also in sharp contrast to that of the Social The SPD is the most influential party in the union movemoderates Herr Heiner Geissler. Democrats who only last week ment but a strong minority reaffirmed their strong links (28.4 per cent) of unionists also votes for the CDU-SCU comwith the union movement at a congress attended by most senior party leaders and Herr Heinz-Oskar Vetter, the federapared to 57.8 per cent for the SPD. The fear is that these moderate voters could be deterred from support of the CDU because of some of the more expositions adopted by ment to union pluralism was

apparently prompted by the fear Herr Strauss. Clearly the railies held by Herr Strauss in the Ruhr region that union support for the Christian Democrats would be

parties. In meetings in Cologne and Essen on Saturday, Herr Strauss had to curtail his speeches after several thousand demonstrators-including some SPD politicians and unionistschanted protests and pelted the CSU leader with eggs. The Christian Democrats are demanding an explanation from

the SPD.

The SPD meanwhile appears to have been consolidating its links with the union movement and the Government recently succeeded in convincing the union leadership that there should be no immediate wage supplements to compensate for eroded by the nomination of during the weekend can hardly the recent oil price rises.

Dutch Budget deficit 'too large'

BY CHARLES BATCHELOR IN AMSTERDAM

DUTCH Government's resulting from the linking of Budget deficit is too large, with the result that State borrowing price of oil—mean this is now on the capital market threatens likely to be smaller. to crowd out the private sector, Dr. Conrad Oort, a Board member of Algemene Bank Nederland, and a former

its Budget deficit next year below the level of 5} per cent of national income expected for this year. Dr. Oort said, on the eve of the announcement of the 1990 Budget estimates.

direct State borrowing, the must be below Fl 12bn (£2.8bn). and fuel inflation. equivalent to 4 per cent of

national income, he warned.

Even if the 1980 deficit does not exceed the level of this year it will still be much higher than

Dr. Oott rejected devaluation of the guilder as a solution for the stagnant economy. For the Government's financing deficit only increase money supply,

borrowing on the domestic The Finance Ministry origin- capital market had reached ally forecast a deficit of critical levels, Dr. Oort went on. Fl 16.2bn in 1979, amounting Real interest levels — the to 6 per cent of national income. difference between interest But higher gas revenues— rates and inflation—were at an

unprecedented post-war level of

men in the Port of Rotterdam were "using intimidation" to prevent men prepared to work m entering the docks, the FNV trade union federation claimed yesterday. Individuals were threatened, while strikers removed cobbles from the streets to prevent vehicles gettine through, the FNV added.

over the weekend by both groups of strikers to extend their action, which today enters its %7th day. The smaller CNV union

federation has said it will make emergency payments to members facing hardship because of the unofficial stoppage.

Poll result in Sweden hangs on post votes

By William Dullforce in Stockholm THE SWEDISH Social Democrat leader Mr. Olof Palme, will not know until tomorrow whether he can return to the Prime Minister's office from which he was ousted three years ago.

ome 38,000 uncounted postal votes and 2,000 ballot papers from Swedes living abroad can still deny him the narrow victory he appears to have won. with the Communists' help, in Sunday's general election.

Even when the final count is in, the result may well dictate that a new election be held after the national referendum on nuclear power due in the

After a dramatic election night during which the computers switched the lead seven times between the Left-wing parties and the non-Socialist bloc. the very last commune to report tipped the scale in favour of the Social Democrats and Communists.

hey have, provisionally, 175 Riksdag members against 174 for the Moderates (Conservatives), Centre party and

The non-Socialist parties scored just over 2.000 votes more an election in which more than 90 per cent of the 6m electorate turned out. Each bloc took 49.2 per cent of the

The postal votes to be counted tomorrow will be decisive Nobody is sure how the 38,000 who posted their ballots on Sunday have voted. but to judge from the last election they could well include a majority for the non-Socialists. Swedes living abroad are expected to vote anti-Socialist.

The election has been a triumph for Mr. Gösta Bohman, the leader of the Moderates, who have replaced the Centre party as the largest non-Socialist party. At the other end of the electoral

scale, the Communists have had their best election in 30 years, winning three parliamentary seats. Mr. Palme's Social Democrats also gained three Riksdag places, but after their vigorous and highly organised campaign, this advance represents only latter's action if it causes power half a success.

Mr. Palme has already indicated that, if the final count remains in his favour, he will form a minority Social Democrat Government. But he would be more dependent than in his previous Premierships on a resurgent Communist party.

The difficulties on the nontavour. Neither the evén greater. centre party nor the Liberals will accept Mr. Bohman as Prime Minister.

it would be odd if Mr. Thörbjorn Falldin, the Centre party leader, were to resume the premiership he left last October after his party had just lost 22 of its Riksdag

ir. Ola Ullsten, currently heading the Liberal minority cabi net. would gladly stay in the Prime Minister's office, but he leads the smallest non-Socialist party which made no progress in the election. Mr. Bohman, stressing that the

economic situation called for a strong government, was the first to moot the possibility of a new election next year. Mr. Ullsten also appeared yesterday to suggest that he might continue his minority govern-ment until the nuclear referendum next March. Then. he said, the energy issue had to be solved quickly, so that economic problems could be tackled.

The provisional result is as follows, with the change from the 1976 election in parentheses: Moderates 72 (+17); Centre party 64 (-22); Liberals 38 (-1); Social Democrats 155 (+3); Communists 20 (+3).

Gains likely by Norwegian Conservatives

OSLO-Norway's Conservatives, rejoicing over their Swedish colleagues advances in parliamentary elections, were hoping to make big gains in local

polls yesterday.

Party leaders predicted a setback for the ruling Labour
party and the Cente
(Agrarian) party.

Three million voters chose municipal and county council members in the two-day elections, results of which were due late last night. National issues such as taxation,

unemployment, the environment, oil drilling and housing have dominated the cam-Mr. Erling Norvik, the Conser-

vative chairman, and Mr. Ivar Leveraas, the Labour Party secretary-general, have both said they expect the Conservatives to make gains, although opinion polls still put them behind Labour with 30-34 per cent of votes against Reuter

Italian inflation rate climbs back to 15%

BY RUPERT CORNWELL IN ROME

INFLATION IN Italy is back to an annual rate of over 15 per cent according to figures released yesterday. The news comes against a background of more widespread strikes in the public sector.

According to ISTAT, the national statistics institute, retail prices rose exactly 1 per cent in August, an unusually high seasonal jump which hrings the year-on-year increase to 15.5 per cent for the first time in almost two years.

The portents for the coming

months are not encouraging. The latest figures do not take account of the petrol and heating fuel increases decreed by the Government at the weekend, while electricity and other public sector tariffs have risen,

or are about to go up.

It is widely feared here that inflation might now reach 17 or even 20 per cent by the end of 1979, compared with just under 12 per cent for calendar 1978.

The one day strike yesterday by more than 150,000 urban and local transport workers brought traffic chaos to major cities. than the left-wing parties in The three main unions which called the stoppage have warned that further one-day protests are likely unless the men's outstanding wage contract demands are met.

Today and tomorrow will see fresh disruption, this time in the education system teachers hold mass meetings to coincide with the re-opening of the schools after summer holidays.

Meanwhile, Sig.

Sandro Meanwhile.



President Sandro Pertini . . . five days in West Germany

Pertini, the Italian President, today begins a five-day state visit to West tlerminy, during which he and Sig. Franco Maria Malfatti, the Foreign Minister, will hold talks with President Curstens and senior Government ministers and politicians,

It is the first visit by an Italian head of state to West Germany for some 15 years. The Halian delegation is expected to take the opportunity of pressing Rome's demands for more equitable treatment by the EEC in the regional and agricultural

Ireland facing power cuts for Papal visit

BY STEWART DALBY IN DUBLIN

IRELAND IS facing the possi- mechanical problems in such be an a work-to-rule yesterday. Ringsend, The Government will be result in acutely embarrassed by the country.

of Pope John Paul II, who is due to arrive on September 29. The fitters, who number several dozen, have been companies broadcasting the arguing about pay increases averaging £16 a week on basic salaries of between £65 and £80

Socialist side, should the of the National Engineering and cuts at a time when the world postal vote tip the result in Electrical Trade Union, are will be watching the Pope refusing to an welging work. which is essential to the upkeep of turbines and boiler tubes at All traffic will be banned within power stations. They have also a five-mile radius of the centre banned overtime and move- of Dublin on ments between stations. Immediate power cuts are not is to hold his outdoor Mass for

> lead to substantial cuts by September 29. The main worry is that cancelled.

billity of power cuts, after Electricity Supply Board fitters in Kerry, or Pooling and Ringsend, in Dublin, could result in cuts throughout the The Pope is visiting Ireland

industrial demand for power is low. There will, however, be extra demand from television visit to the rest of the world. The Government has suffered considerable bad publicity this year because of a post strike.

Talks have recently broken petrol shortage, and a tax down, and the fitters, members revolt. It can ill afford power visit are beginning to emerge

September 29, when the Pope expected, but an accumulation possibly im people in the of unrepaired breakdowns could capital's Phoenix Park. All leave for the \$,000-strong Gardai (police) has over

Swedish industry outlook continues to improve

and order intake continue to grow, while its cash and short-term money position has considerably improved. However, industry here is still not showing any firm disposition to invest, according to the Statistical Central Bureau's three

latest reports.

The first shows that in July, industrial deliveries were 16 per cent higher in fixed prices than in the same month last year. while the inflow of new orders rose by 21 per cent. Value of order books at the end of July was 19 per cent up on a year before. Despite the rising demand for

Swedish companies products, their total orders remain well below the level reached in the 1973-74 boom, the bureau says. Against this, the figures show that the lone-awaited engineering recovery appeared to have got under way during the three months to the end of July. Engineering companies, excluding shipyards, boosted deliveries

BY WILLIAM DULLFORCE, NORDIC EDITOR, IN STOCKHOLM SWEDISH industry's deliveries by 17 per cent and orders by At the end of June, industrial

enterprises' liquid assets were 18 per cent up on a year earlier. But a survey in August showed no increase in companies' intention to invest. At current prices, Swedish industry expects to invest more

than Skr 14.3bn (£1.5bn) this year. This represents an vear. advance of about 10 per cent on last year but is still far below the investment level reached in The iron and steel companies are signalling larger invest-

ments and improvements are chemicals and engineering. But pulp, paper and timber mills foresee reduced capital spending.
Preliminary indications for

1980 suggest that industrial investment will increase, but is not likely to show any great

Hamburg homes evacuated after war poisons found

Hamburg around a disused chemical factory was evacuated vesterday, after hundreds of tons of highly poisonous chemicals and explosives, dating back to World War II, were found. Nearby factories

ordered to stop work and about 200 people evacuated from their homes in the suburb of Eidelstadt, Special troop units wearing

gas masks and heavy protective clothing searched the building after a number of grenades containing poisonous chemicals, 70 tons of poisonous chemicals and 400 tons of zinc sludge used in the manufacture of explosives had been found on the

factory at a time. Those resi- found on Sunday.

return to their homes later today, police said. The explosives were first

found on September 6 when 3 boy died after handling some of the chemicals. His brother and a friend were severely injured. Officials said the evacuation

was necessary because chemicals might be accidentally released during the search. A Hamburg City spokesman said work had continued at the factory on a small scale until two years ago, but during the

last few years it had been

operating, the factory had only

manufactured gas masks. The most dangerous chemical found so far is a German nerve gas known here as "tabum." Troops are being allowed to The spokesman said eight green spend only one hour in the ades containing tabun had been



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Nederland, and a former the Government's publicly noon.

Finance Ministry Treasurer stated long-term target of 4 per • Striking dockers and tugboat-General, warned yesterday. cent, Dr. Oort added. A larger The Government must reduce deficit was only acceptable for a short time if it were used to help strengthen the structure

of the Dutch economy. After allowing 14 per cent for Government to borrow abroad local authority and other in- to meet its deficits was unacceptable, since this would

The extent of Government

5 per cent. This threatened to hamper borrowing and hence; investment by industry. Mr. Frans Andriessen, the Finance Minister, presents the 1980 Budget to Parliament this after-

This follows decisions taken

FINANCIAL TIMES, published daily except Sundays and holidays. U.S. subscription rates \$385.00 per annum. Second clase postage paid at New York N.Y. and at additional mailing



Mr. Hafizullah Amin Afghanistan's new leader

Afghanistan shake-up worrying for Russia

THE OVERTHROW of President Nur Mohammed Tarka of Afghanistan, and his replacement as head of State by Mr. Hafizullah Amin, the Prime Minister, is seen by Western observers as a worrying development for the Russians. The Soviet Union has a growing com-mitment to Afghanistan's unpopular Marxist regime.

Radio Rabul announced on Sunday night that President Taraki had resigned because of ill health. But he appears to have been removed in a power struggle which caused further bloodshed in Kabul The fate of President Taraki

and of two dismissed Cabinet and or two dismissed Caoinet
Ministers — Lieut-Col.
Mohammed Asiam Watanjar,
Interior Minister, and Major
Sherjan Mazdooryar, Minister
for Frontier Affairs — was not
known. But there was some
speculation that they might
have been killed. have been killed.

Only a week ago, Pravda carried a picture on its front page of Mr. Taraki being received by President Brezhnev in Moscow on his way back to Kabul from the non-aligned nations' summit meeting in Havana. Such prominence was obviously intended to demonstrate that he had full Russian

support.
Until the week-end, the Khalq (Masses) Party Government was under the dual control of President Taraki and Mr. Amin —a partnership in which Mr. Amin had the upper hand, but which suited the Russians as giving them more leverage over the government.

President Amin has on several occasions embarrassed the Russians by the unpopular radicalism of his reforms, and his excessively pro-Soviet public stance in a Moslem, nationalist country.

Fighting appears to bave broken out in Kabul on Friday, after the removal of Col. Watanjar (one of the leaders of the 1978 coup) and Major Mazdooryar from the Cabinet. Among those killed was Mr. Daoud Taroon, the head of the security forces and a close associate of Mr. Amin. President Taraki's removal followed soon

Such a power struggle at the centre of the ruling hierarchy is further evidence of the vulnerability of the regime, fighting an insurgency which has spread to most provinces. The Russians, who already have about 5,000 advisers in Afghanistan, have been supplying new equipment, including helicopter gunships. But they are now clearly facing a difficult choice in how far to go in their support of Mr. Amin.

Row worsens in Iran over export of revolution

Bahrain and Kuwait, who

each have significant numbers of Shi'a Muslims who look to

more pragmatic approach than

that adopted by the clergy, is seen as intended to alleviate the known anxieties of Iran's Gulf

neighbours. Dr. Yazdi is also believed to have his own ambitions for the presidency of

the Islamic Republic once the

present process of constitu-

tional transition is completed.

Meanwhile, in London, Dr. Shapour Bakhtiar, the last Iranian premier under the

Shah, has been staking his own claim to be considered as a

potential factor in Iranian

At a press conference yester-

day Dr. Bakhtiar, who escaped

from Iran some two months ago after four months in hiding,

complete failure to remedy the poor state of the economy and

to prevent the massive brain

drain of professionals would prove its undoing.

the Khomeini regime's

politics once again.

THE RUNNING quarrel over policy between Iranian Government of Mr. Mehdi Bazargan and extended to foreign affairs.

Dr. Ibrahim Yazdi, the down hard on signs of unrest

Foreign Minister, yesterday among their own Shi'as. rejected the declaration by The Iranian Foreign Ayatollah Hossein Montazeri that Iran would export its more pragmatic approach than revolution to all other Moslem

The Foreign Minister told the official news agency, Pars: "We do not want to send armed men to fight foreign regimes . . but we cannot prevent the influence of the Islamic revolution on other countries."

Dr. Yazdi, regarded as the senior official most sympathetic to the interests of the West, said

he had assured Mr. Nur Mohammad Taraki, the former Afghan president, who was replaced over the weekend, that Iran would not interfere in the internal affairs of its eastern

neighbour. Last Friday Ayatollah Montazeri, who is reported to be the head of the still secret Revolutionary Council, warned Iran's Muslim neighbours of the Islamic Republic's proselytising

Sudan sets two rates of exchange

By Alan Darby in Khartoum

SUDAN HAS rationalised its exchange rate system by setting up an official two-tier system which legitimises the existing black market in

foreign currency.

The new officializate of S£ 0.50 to the dollars to be used for essential imports and exports, while other transactions—as defined in the government—will be seen government—will be ducted at the parallel rate of S£ 0.80 to the dollar.

The parallel rate will allowed to fluctuate. I official rate was previous \$20.40 but because of tax/subsidy arrangement transactions were carried out at S£0.50.

The new system, introduced against a background of economic crisis which last month produced street disturhances and strikes. It is in tended to ease balance of payments problems, encourage Sudanese working abroad to remit foreign currency and thereby reduce inflation and reduce constraints on the

Under the new m Sudanese commercial banks will be allowed to authorise more foreign-transfers without reference to the central bank and Sudanese will be allowed to open foreign currency bank accounts with funds obtained anywhere

The Bank of Sudan, the central bank, is understood to expect a net outflow of funds during the first month in which the new measures come into force. Saudi Arabia with which the measures were discussed, has agreed to supply Sudan with a cushion of \$300m to cover the initial anticipated deficit. So far, no Saudi funds are believed to have been provided, however.

Ohira aiming for 271 seats in October poll

BY CHARLES SMITH, FAR EAST EDITOR, IN TOKYO

THE CAMPAIGN for Japan's which make up the middle October 7 General Election was formally declared open yester the Komeito (Buddhist-oriented formally declared open yesterday afer some days of extra-legal but increasingly active campaigining by the various

The election battle is essentually a two-way contest between the ruling Liberal Democratic Party and the half-dozen or so opposition parties, ranging from the centre of the political spectrum to the far left.

The Liberal Democrats, in power since 1955, are certain to win, but will not regard themselves as having done well unless they win a minimum of 271 seats in the 511-seat Lower Touse of the Diet. This is the number required for the party to control all of the Lower House Diet committees, a necessary condition for "smooth" govern-ment by the majority party. The Liberal Democrats, while

easily the largest party, held only 248 seats in the last Diet. dissolved carlier this month, making it dependent on the cooperation of some of the smaller centre parties for the passage of

some legislation. Results of recent public opinion polls and local elections indicate that the party should do better than in the 1976 election with the party should do better than in the 1976 election with the statement of the party should be the party shoul tion, when it was seriously weak-ened by internal feuding. It is by no means certain, however, that the 271-seat target is with-

A feature of the 1979 election campaign will be co-tion as Party Leader in a operation between the four leadership election scheduled to operation between the four small- to medium-sized parties be held late next year.

clean government" the Democratic Socialist Party, the New Liberal Club and the tiny United Social Democratic Party. The four have agreed to back each others' candidates (or to back jointly approved independent candidates) in 10 multi - member districts. The Komeito and the Democratic Socialists alone have co-operation agreements in 20 more constituencies.

The largest opposition party, the Japan Socialists, are expected to have to fight hard to retain the 116 seats they held in the last Diet, in view of the swing towards the centre and right since the last election.

The Communists, however, are expected to do marginally better than in 1976.

A good showing for the Liberal Democrats will strengthen the position of Mr. Masayoshi Ohira as Prime Minister and Party Mr. Ohira has avoided any public commitment to the 271-seat target figure, pre-sumably because he knows his rivals in the party would not hesitate to pin responsibility on him if the target is not attained.

Mr. Ohira won the party presidency last December, un-seating the incumbent Mr. Takeo Fukuda against most people's expectations. He is due to defend his posiCamp David anniversary marked by accusations

By Roger Matthews in Cairo

THE FIRST anniversary of the Camp David Middle East peace agreements signed by Sgypt, Israel and the U.S. was celebrated yesterday by more recriminations accusations.

An Egyptian Government statement accused Israel of trying to obstruct the peace process by reportedly agreeing to allow Israeli citizens to buy land on the occupied West Bank of the Jordan and the Gaza Strip.

An Egyptian spokesman said the decision violated the spirit of Camp David, and was an attempt to influence the outcome of the negotiations on Palestinian autonomy.

"It casts doubts on Israel's intention to respect its commitment at Camp David to recognise the rights of the Palestinian people," the spokesman said.

But Egypt's displeasure has to be seen in the context of its similar anger about further Jewish settlements being set up in the West Bank and Gaza Strip

President Sadat earlier issued a statement reaffirming his determination to liberate all occupied Arab land, and to restore the "legitimate rights" of the Palestinians. PRODUCTIVITY STARTS WORRYING SINGAPORE

A sure sign of development

starts to worry about produc- Kong

Council (NWC) recently blithely announced a recommendation for an average 20 per cent rise in wage costs—higher for lower paid workers. That is in a country where inflation has been running below 5 per cent, meaning a real cost wage cost rise of some 15 per cent. The Government further said it was aiming for similar annual increases in the next few years. Clearly it was not announcing

just a wage policy, but a new economic strategy. Not all parts of this strategy are yet in place. Perhaps most important, one will have to wait till February's Budget to see how the Government intends to mould or moderate the economic and fiscal effects of sharp wage rises. Of the average 20 per cent, 4 per cent will go to increased Central Provident Fund (CPF) contributions and 2 per cent to a new industrial training fund.

In the past, the government outstrip has held wages down, emphasis-ing the need for resilience and workers austerity to attract investment half as rugged as the other high Thailand as well as Malaysia.

tivity.

At a time when most governments are trying to hold down wages, Singapore's Governments appointed National Wages well below per capita GDP. The despite annual growth of the Countries of the late 1960s.

But as a result of Government the late 1960s.

But as a result of Government the late 1960s.

Skill industries such as engineering where local experience has been insufficient to modest 6-8 per cent a year achieve international levels of productivity.

worrying about job creation and and about on a par with Hong expanding East Asian countries, industries which Singapore and much more slowly than in now does not want.

حكذا من الذمل

Government has two weapons labour force of 4.8 per centof restraint: the annual NWC an unusually high rate caused recommendation which applied by a combination of natural to the public service and was increase imported labour and a the guideline for others, and sharp rise in the number of tap of temporary migrant women seeking work.

Philip Bowring, recently in Singapore, examines the government decision to raise wages.

labour from neighbouring

Malaysia designed to stop the growth of The policy of low wages and simple low value added indusgenerous tax incentives for tries; to make other industries industry, combined with Singapore's excellent infrastructure. attracted foreign investment and gradually eliminated unlarly service ones, to shed employment worries. It was a ginally productive labour. wery self confident Singapore NWC guidelines have it which recently woke up to two discomforting facts: Labour demand was vastly

outstripping supply. Some 23,000 additional foreign workers were brought in last year bringing the total well over 100,000. This trend was in the face of world economic over 100,000. This trend was uncertainties. Singapore likes to regarded as socially undesirable, view itself as a "rugged society." especially as workers had to be Outsiders might feel it was not brought from Indonesia and

The high wage policy is more capital intensive or pro-duce higher value products and to persuade industries, particu-larly service ones, to shed mar-

NWC guidelines have in par-ticular held down wages in exorientated ternally such as banking and oil indus-try servicing. This group will have no problem paying a succession of wage rises because profits are high and costs can be passed on to cus-

But manufacturing industry is

IF THERE'S a sure sign of growth nations of East Asia: • That labour productivity had becoming a "developed" wages were higher than any been growing more slowly in a find it especially tough: nation it is when a country stops where in Asia outside Japan Singapore than in other fast • Low value added assembly

Local manufacturers who lack the know-how, capital or marketing capabilities to make quick changes in production techniques or products to remain competitive at higher wage levels.

If things go sour the Government has various defences: it could put a stop to the policy next year; it could eliminate the 4 per cent extra CPF contribution by employers without hurt-ing wage packets; and it can manipulate foreign manpower imports. For all its bold talk of facing up to closures, the Government is keenly aware that a sharp rise in unemployment (currently 3.5 per cent) is not a politically acceptable option.

If the policy is generally successful it could scale down the contribution of manufacturing to the economy. This has been edging upwards, reaching 22 per cent of GDP last year. But critics of the Government claim that this has only been a result of generous tax and other incentives which have had to be paid for by the services sector, which is still by far the largest contributor to GDP. pays better wages. and has been less volatile.

NELSON BEETHOVEN IS CAESAR BERNHARDT

Did you know all these people were disabled?

No-one would question their ability to contribute. And that's true of most disabled workers today - disabled they might be, unable they're not.

Yet their chances of finding the kind of employment that allows their full abilities to be used are well below average,

That's why the Manpower Services Commission has created the Fit for Work Award Scheme - a project wholeheartedly supported by the Government, the TUC and the CBI.

Starting in 1980, the Fit for Work Award will be presented publicly each year to those 100 firms (large or small) who best carry out constructive policies towards the employment and career development of

The award will consist of the trophy pictured here, a wall plague and a citation in a presentation case. And it's for the firm as a whole - both management and employees – to acknowledge the part everyone plays in carrying out good employment policies.

disabled workers.

Could your firm win the Fit for Work Award? If you send us the coupon, we'll send you

a wallet containing details of the scheme and how to apply. The wallet also gives case histories of firms who have successfully employed disabled people, and information about the financial and advisory help the MSC provides.

One of these wallets has already been sent to most major employers, but you are welcome to additional copies.

For the record, Milton was blind, Beethoven was deaf, Helen Keller was blind and deaf, and Leonardo and Caesar had the hidden disability of epilepsy. Roosevelt, Bernhardt, and Nelson were examples of major or partial physical disability.

Yet their disabilities are scarcely the first thing one remembers about them.

> Today's disabled worker no more deserves to be categorised than they do.

Could your firm win the Fit for Work Award?

Find out by sending this coupon to the following address: Manpower Services Commission, Box 101, Gunwharf, 128 Wapping High Street, London El.

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Home state likely to give former governor 168 delegates

Reagan wins California voting test

BY JUREK MARTIN, U.S. EDITOR, IN WASHINGTON

MR. RONALD REAGAN has Republicans unenthused by Mr. struggle for the Democratic demonstrated his political Reagan's candidacy, including Party's nomination. Several muscle, at least in his home supporters of Mr. John Constate of California, by ensuring nally, the former Treasury that a proposal that would have Secretary and Mr. Reagan's changed the rules for next most potent challenger for the June's Republican Party pri- allegiance of the party's Right mary election in the state was wing. thoroughly squashed.

mittee overwhelmingly agreed clearly a useful bonus for Mr. that the Republican primary Reagan—though one which was would retain its winner-take-all never much in doubt. Still the provision. This means that who-comfortable leader in most ever wins the primary will public opinion polls of Republisecure all the 168 delegates that cans, following his near-defeat California will send to the of former President Ford in the national party convention, at 1976 nomination race, he will which 997 delegates will be probably formally declare his needed to win the Presidential nomination.

Winner - take - all primaries has seen them almost abolished. California's Democrats switched in 1976 to a system awarding delegates on the basis of the proportion of votes won by candidates in the preferential poll. The attempt to change the a loser on the national level.

Californian rules was launched Republican opinion may a by a cross-section of state turn on the outcome of the

annoys U.S.

Asuncion
RELATIONS between the U.S.

Government and Gen. Alfredo

Stroessner, who has just com-

pleted 25 years in power in Paraguay, have taken a turn for the worst following the

arrest on Saturday of Dr.

Domingo Laino, president of the Paraguayan Liberal Party.

Dr. Laino who had just

returned from a visit to politi-

cal and military leaders in Brazil, was arrested last year on his return from a visit to

the U.S. Congress in Washing-

ton. The Carter Administra-tion demanded his immediate

release last year and be was

This time he may be charged

by the Paraguavan Government under the Law for the

Defence of Democracy, which

forbids Paraguayans to criticise the regime abroad. Dur-

ing his stay in Brazil last week,

he disclosed that Gen. Joac

Figueiredo, the Brazilian

President, has been unwilling to meet Gen. Stroessner to

discuss the future of the \$10bn

freed after a month in jail.

thoroughly squashed.

A weekend meeting of the one fifth of the number needed state's Republican central comfor the nomination, would be

There is nonetheless the used to be common in both nagging suspicion that he may parties, but a reforming trend be vulnerable in the primary season. This is based on two arguments against him—his age (he will be 69 next year and would, if elected President, be the oldest man ever to enter the White House) and his record as Republican opinion may also

party-strategists are known to feel that if Senator Edward Kennedy wins the Democratic race, his most effective opponent would be Mr. Connally, whose vigour is not in dispute and whose thirst for a no-holds-barred contest against a man like the Massachusetts senator seems unquenchable.

If President Carter emerges victorious, however, it is argued that either Mr. Reagan or Senator Howard Baker from Tennessee would be a stronger What remains to be seen,

however, is what sort of race Mr. Reagan will run. His campaign manager, Mr. John Sears, who performed so brilliantly in 1976, seems intent on moving the caudidate towards the centre, shedding his Right-wing image. Mr. Sears succeeded in ousting a campaign cabal, led by Mr. Lyn Nofziger, a long-serving Reagan aide, which wanted the former California Governor to remain faithful to his Conserva-One of the main hopes of remains the fro moderates like Senator Baker is the man to beat.



Mr. Ronald Reagan

that the party's Right wing will carve itself up, making more viable the candidacy of a centrist. Indeed, at this stage, the prospects of both parties engaging in bloody internecine warfare appear quite real.
But Mr. Reagan, as Senator
Baker freely admitted last week. remains the front runner and

Paraguay Chrysler told to look harder for aid arrest

IT HAS now become clear that tions. it may take several weeks for Chrysler and the U.S. Government to agree on a financial support package for the ailing car nvolving federally-guaranteed

rejection Chrysler's \$1.2bn preliminary request for assistance, it has now emerged that the Treasury feels that the company has not tried hard enough to get finan-cial support from other institu-

Government Chrysler to negotiate with the Automobile Workers United Union in the hope that the UAW company and even longer for may sign a pay agreement Congress to approve any plan smaller than that just negotiated with General Motors. It is also interested in the company securing aid from state and local governments, from its bankers and from its suppliers.

Moreover, as Mr. Neil Gold-

inclined to grant special dispenwants sation to Chrysler, relieving it ith the from part of the burden of federally-imposed mileage and

It is an open question whether or not Chrysler can secure support from outside. Company spokesmen stress that such pre liminary negotiations have already begun, but no firm pro-gress has been reported. The UAW is known to be sympaschmidt, the new Secretary of thetic to Chrysler's plight, but Transportation, has made clear, is more intent on cementing its the Government is simply not new contracts

Brazil builds road to Jari project

BY RIK TURNER IN SAO PAULO

to finance the construction of a road from the state of Para into Jari, the giant mining, agriculture and forestry project in the Amazon region be-

Sr. Alacid Nunes, the Para party, who suggested that the state governor, told a symposium on Amazonia in Para Itaipu hydroelectric scheme. that the road would help the

BRAZIL'S National Economic Federal Government to install bility for the health, transport, Development Bank (BNDE) is a Brazilian administrative structure in the project, which is at present run totally by Mr. Ludwig's company, Jari Florestal e Agreopecuaria, managed by

on about October 10, in his

for Palestinian demands for

separate statehood gains fur-

Liberation Organisation, is con-

sidered likely to seize the

momentum by making his

A notable absentee from UN

proceedings this year will be Mr. Andrew Young. He was

obliged to tender his resigna-

tion last month as Chief U.S. delegate after he gave his superiors a misleading account

of a meeting he had on July

Mr. Donald McHenry, a more

26 with the PLO's UN observer,

Mr. Zehdi Terzie.

second UN appearance.

and education of the project's 30,000 Brazilian inhabitants. Governor Nunes admitted that before he came to office, members of the Brazilian federal police stationed in Jari were paid by the project as well as receiving a normal salary. This effectively turned them into Jari employees, and led to irregularities such as non-Jari were tired of taking responsi-

UN GENERAL ASSEMBLY

Dissension may replace detente

BY OUR UN CORRESPONDENT



MAPCO IS OIL, BUT...

Oil is only a part of the

MAPCO picture. This

integrated energy

company also pro-

duces and markets

uids, operates LPG

and anhydrous am-

monia pipelines, re-

tails LPG and liquid

and sells sonic in-

For a closer look at

MAPCO's diversifica-

tion and profitable

current report.

growth, write for our

coal, gas and gas lig-

WHAT MANY diplomats predict will be the liveliest, WHAT most acrimonious session of the General Assembly for several years the immediate prospect of a floor fight over the issue of Cambodian representation.

Bitter arguments on this question which marked the recent Havana conference of non-aligned states are certain to carry over into the UNalong with most of those other issues that created sharp divisions as moderates and extremists battled for control of the Third World's political direction in the 1980s. Non-aligned nations comprise

the largest group in the General Assembly, where the superpowers have no right of veto. New strains between Washington and Moscow, exacerbated by the recent dis-closures of the presence of Soviet combat troops in Cuba, the animosity between Moscow and Peking, and continuing angry reaction to the Egypt-Israel peace accord—coupled with the vexed problem of the occupied territories-are sure to produce spirited debates at this 34th General Assembly, due

to last 13 weeks.

There will, however, be at least one brief respite from polemics. Pope John Paul II is to address the General Assembly on October 2—almost exactly 14 years after Pope Paul VI became the first head of the Roman Catholic church to appear before the UN. In the Pontiff's honour, delegates will forego all other business during his visit, which was arranged in response to a personal invitation from Dr. Kurt Waldheim, the Secretary General-himself

cautious career official, succeeds Mr. Young, who is on a trade mission to Africa. The agenda for the General Assembly comprises 126 items, although others may be added. Mr. Andrei Gromyko, the Soviet Foreign Minister, often pro-poses a few new ones, such as detente and disarmament, in

his address to the delegates.

For the past few years, detente was the UN watchword, and assembly sessions were tranquil to the point of boredom. This year, however, signs abound of a return to livelier times as old antagonisms are resharpened and some new ones are added.

the issue o of Cambodian nation special committee on representation, is likely to be a decolonisation—Mr. Salim has focus of recurring animosity: lately become more restrained the UN recognises the Peking- and less polemical.

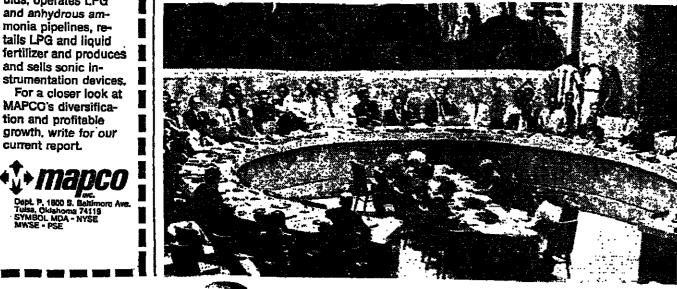
That past-master of vitriolic backed Cambodian Government phrase-making, President Fidel of Pol Pot, which was ejected Castro of Cuba, is expected to from Phnom Penh by an insuraddress the General Assembly rection engineered and supported by Vietnam. Whether opens in New York today with capacity as the leader for the that recognition should connext three years of the Non- tinue is expected to become an Aligned Movement. If support immediate issue, with the Russians, who support Vietnam, likely to challenge Ieng Sary. ther ground, Mr. Yassir Arafat, the Deputy Premier, and the chairman of the Palestine other members of the delegaother members of the delegation loval to Pol Pot almost as soon as they take their seats opportunity to accelerate the in the assembly hall.

A nine-nation credentials committee may then be asked urgently to review the question provide a little time for the assembly to complete organisational business in preparation for the start of the general political debate next Monday. An item on Cambedian rep-

resentation could be added to the agenda, following the pat-tern established by the annual debates on Chinese representa-tion that preceded the with-drawal of the Taiwan nationalists and the assembly's recognition of the Peking Government almost eight years ago. Regardless of the outcome of the current London confer ence, the Rhodesian question certain to be discussed again in the assembly, along with the usual complex of South African problems.

The president of the assembly will be a veteran of UN diplomacy, Mr. Salim Ahmed Salim of Tanzania, who is sometimes mentioned as a possible successor to Dr. Kurt Waldheim as Secretary-General. Once a re added. fiery anti-colonist — he has Indochina and specifically long presided over the 24. Cambodian nation special committee on

a practising Catholic. BELOW: UN Security Council with outgoing Ambassador Andrew Young centre, rear



Renault to build Saudi network for trucks

By Terry Dodsworth in Paris

THE ENGINEERING division of the Renault group, France's nationalised motor company. has won a FFrs 230m (£24m) contract to build a network of 23 lorry service stations in Saudi Arabia.

The garages will be built by RIET for the Saudi Arabian Government. They will be designed to service public sector vehicles throughout the country.

RIET said yesterday that the engineering for the project would be in the hands of the company itself, although the equipment for the gar-ages would be supplied by about 20 French manufacturers. The station will have to be capable of servicing various marques of vehicle. Previously, RIET has won a variety of engineering con-

tracts in Francophone Africa. International companies have been invited to offer bids to build an Arab satel-lite. The official Saudi News Agency, quoting Dr. Ali Mush-shat, managing director of Arab Satellite Agency ARABSAT), said tender docu-ments would be available at the Tunis headquarters of the Arab League by the end of this month.

The satellite's control station will he hased in Saudi Arabia with reception centres in all the Arabsat member countries. Dr. Mushshat said. He expected the project to be in operation 30 months after the signing of the contract, Reuter reports from Riyadh.

Greece, Libya to establish closer links

By-Our Athens Correspondent

LIBYA HAS agreed to increase its imports of Greek products and set up joint industrial ventures under an agreement between the two countries signed here last

Libya, which last January agreed to provide Greece with 15m tous of crude oil in the next five years, has been showing increased interest in expanding economic, technical and trade relations.

The Libvan leader. Muammar al Gaddafi, has extended an invitation to the Greek Premier, Mr. Constantine Karamanlis, to pay an official visit to Tripoli. On the other hand, he has also forged close ties with Mr. Andreas Panandreou, whose party, the Panhellenic Socialist Movement, saining ground in Greece because of its socialist and neutralist stand.

By supplying Greece with 3m tons of crude of a year. Lihva will be covering onethird of the country's annual requirements. The overall agreement means that trade between the two countries will increase from \$170m to \$200m

Greek construction compaules have recently undertaken protects, mostly infrastructure work, in Libya worth an estimated \$170m. The establishment of a shinning line between the island of Crete and Libvan ports is planned, as are other joint

The two sides also agreed to set up a Greek-Libyan investment company as soon as possible to undertake joint industrial and tourist projects. The first such discussed was the establishment of an ammonia and fertiliser plant.

Iran asks W. Germans to complete iron ore project

important iron-producing pro-

Lurgi Geschischaften, which had been making an ore-pelletiser plant in Ahwaz, and the Korf Steel group withdrew their German workforce at the end of last year. The companies are now intending to send out experts to assess what damage was sustained during the revolution before the German work-

The Lurgi plant was believed plete at the beginning of this tion, the Tehran Government as a corneratone of the year while Korf's three Midrex clearly thought it worthwhile between the two countries.

have been asked to return to almost ready to come onstream. cerns. Iran to complete work on an The Midrex reduction process produces iron, in a highly pure ject which had to be suspended form, from ore pellets. Each after the Shah was overthrown, unit in Ahwaz is designed to produce 400,000 tonnes of crude iron, representing a substantial input for the Iranian steel

> Although the move will give some encouragement to German companies worried about their Iranian interests, the Ahwaz the project for being "un-project is probably a special social" and overpriced. This case. The Iranians appear to be case. The Iranians appear to be anxious to make progress in among German companies with steel production and with the Iranian interests because the

industry.

TWO West German companies direct reduction units were to call back the German con-

Iranian Government makes a clear distinction between the necessity for Iron and steel projects—fran retains its 25 per cent stake in Krapp -and "uneconomical" nuclear engineering schemes, - The \$5.9hn contract to build two

nuclear reactors in Bushire was terminated by the Iranians and Kraftwerk Union after the Tehran Government criticised Korf units so close to comple KWU deal had been regarded tion, the Tehran Government as a cornerstone of trade

France in new E. German pact

IN THE latest of a recent series of efforts to boost trade with Eastern Europe, France has in the first seven months of signed an industrial pact with this year swung FFr 400m into clude a technical co-operation favour. East Germany intended to cover France's favour after 2 FFr 12bn (£1.27bn) worth of FFr 250m deficit with East French equipment between Germany last year.
1980 and 1985.
Recent French

countries. France is trying to repair the disappointments folrepair the disappointments for lowing earlier agreements. In early 1977, the French and East Germans set their sights on a tripling of trade by 1980. In tripling of trade by 1980. In practice, only this year are the Germans are also seeking two countries within reach of French co-operation in chemicals their 1976 trade record of and electronics. FFr 1.91bn. In 1977 their ex- Dr. Gerhard E

contracts

As in several other Comecon factory to be built by Citroen and a fertiliser plant deal with Creusot-Loire.
The latest agreement covers

their 1976 trade record of FFr 1.91bn. In 1977 their exchanges dropped to FFr 1.38bn, recovering to FFr 1.75bn last year and FFr 1.4bn in the first seven months of this year.

and electronics.

Dr. Gerhard Beil. Deputy East Other boosts to East Employee trade came during their by President Valery German trade came during the president valery German trade came durin

next year. France has agreed to arrange credit facilities. This agreement followed a visit by M. Jean-Francois-Poncet, the French Foreign Minister, to East Berlin

in July.
No details were given of what the East Germans expect to export to France in return but they have made clear that they will be seeking to bilince bilateral trade over the five year period.

W. Germany sees Far East boom

In the not too distant future the area is expected to become one of the most important grown far faster than exports, markets for German goods.

This year authoritative fore-casts estimate the Federal Republic's trade turnover with the area to reach close on DM 34bn (£8.3bn). This com-pares with 1978's DM 28.4bn. At the same stime the Far East and South-east Asia will foreign trade. Last year the

institute, the expansion has the area. been under way for at least four

trade has grown by an annual Total trade volume will there- sales in 1976.

Asia is expected to expand by with the Far East and Southclose on 20 per cent this year. east Asia has expanded at an Ifo points out. But it claims that long-term trends indicate that

the Federal Republic's chronic

trade deficit with the area should eventually be eradicated. The institute estimates 1979's imports from the area at about DM 19.1bn, while it predicts DM 3.3bn by the end of 1979 exports rising to DM 14.7bn. —DM 1bn above the 1978 level This, if the forecasters are account for about 5.6 per cent. This, if the forecasters are of the Federal Republic's correct, indicates, a reduction

forschung, the highly-regarded Japan - the Federal Republic's from most important trade partner in DM 1.4bn.

WEST GERMANYS trade with average of 7.7 per cent. During fore be up from DW 10.7bn in the Far East and South-east the same period, however, trade 1978 to DM 12.3bn. The deficit in Japan's fevour, however should remain stable at 1978's DM 3.6bn. In real terms, however, the

fastest growth in real terms has come in the Federal Republics trade with South Kores. In 1976 the total turnover in trade between West Germany and South Korea amounted to DM 1.5bn. This will have risen, according to Ifo forecasts to

What is most encouraging about West Germany's South in the deficit this year from Korean trade is that exports are figure was 5.4 per cent 1978's DM 4.50n to DM 7.50m growing in Assert Asserted According to a report by Much of the deficit is This year imports are expected Ifo-Institut fuer Wirtschafts accounted for by trade with to increase relatively slowly—Ifo-Institut fuer Wirtschafts Japan — the Federal Republic's from 1978's DM 1bn to

Exports from West Germany This year German imports to South Korea, on the other from Japan are expected to hand are forecast at DM 2bn, Between 1976 and 1979 the total DM 7.9bn, while exports which is way ahead of the Federal Republic's total foreign are forecast to reach DM 4.3bn. Federal Republic's DM 500m

Brazil help in Manila fuel plan

BRAZIL is to supply expertise countries have similar oil prob- Sr. Velasco was unsure whether and equipment to the Philiplems, the Philippines, produce pines in the development of a less than 20 per cent of its oil broadly based alcohol fuel needs—11,000 b/d of total conprogramme.

This was revealed by Sr. Geronimo Velasco, the Philipino Energy Minister, who spent 10 days touring Brazil, inspecting cane plantations, alcohol distilleries, distillery equipment manufacturers and Volkswagen of Brazil, which now producers vehicles which run exclusively on cane alcohol.

The alcohol entente is logical according to Sr. Velasco. Both

sumption of 240,000-and Brazil only produces about 15 per cent -162.000 b/d of consumption of over 1m b/d.

Both nations, moreover, have abundant sugar cane, and, like Brazil the Philippines hopes an alcohol programme will eventually replace 20 per cent of its petrol needs.

Since Volkswagen vehicles are produced in the Philippines,

his country would import "alco ever, he said, manufacturing technology for these vehicles would definitely be Brazilian. Equally, his Government was interested in importing distillery equipment from Brazil and studying Brazil's use of alcohol as feedstock for an alco chemical

industry.
At the moment, two-way trad is in Brazil's favour: In 1978, it exported \$41.7m (£20m) of goods to the Philippines, and bought only \$1m.

WEAVING MACHINES

UK in bid for Hanover comeback

years.

BY RHYS DAVID, TEXTILES CORRESPONDENT

which between them carry of looms have been totalling it has largely been overseas around 40,000 a year, with loom manufacturers which have beneentry into the world market in looms, worth around £1bn a more for advanced models. But programmes in the wool textile month at the International Textile Machinery Association exhibition in Hanover.

The first machine embodies a new and as yet largely untried concept developed in Loughborough by Bentley Engineering, the Sears Group subsidiary which is one of the world's leading producers of knitting machinery. Based on an Italian invention the Bentley machine incorporates a moving cylinder and is claimed to produce fabric 10 times faster than the conventional flat loom.

The other development is by Northrop, the Blackburn-based loom builder. The company was one of the giants of the weaving machine industry in the immediate post war years, but has recently been confined to the manufacture of the older shuttle type loom which has been largely superseded in developed markets by high speed shuttleless or rapier systems. Northrop will be showing its first rapier loom at the exhibition.

Weaving equipment — of which Britain was the only manufacturer in the early part of the last century—has been another sad story of UK indus-

TWO NEW weaving machines trial decline. World purchases year, will go on display next Britain has almost failed to compete. Apart from Northrop, whose main markets have been in developing countries which it

has supplied with the slower, more labour intensive and therefore cheaper shuttle looms, the UK weaving machinery industry has consisted mainly of small specialist manufacturers. Thus the UK has a position in narrow fabric weaving through Bonas and in conveyor belt weaving through Wilson and

Longbottom, and also has two small suppliers to the wool textile industry in Macart and Hattersley. The Swiss have captured much of the world market in the expanding shuttleless area through

Sulzer, Saurer and Ruti. Other

important suppliers are SACM

of France and Dornier of

Germany. The UK share of OECD exports of both weaving and knitting equipment, according to a recent National Economic Development Office sector working party report, was down to only around 5.6 per cent in 1977 compared with 13 per cent at year of around £50m. the start of the decade, and the bulk of these sales are accounted for by the knitting sector.

The wool textile industry has past five years, under a Government-assisted scheme, and much of this has been on weaving equipment. Various attempts have been

a new technique developed by Cambridge Consultants, part of the Arthur D. Little Organisation. This project failed to and fabric construction is much attract commercial support, more critical. however, and has now run out of funds. Platt Saco Lowell, the UK spinning machinery producer, has been reluctant to tackle weaving, taking the view that its expertise is in machinery for processing fibres and not in the very different technique of producing fabric.

Loom development has made more sense for Bentley, which is already involved in fabric technology as one of the world's leading producers of knitting machinery, with a turnover last

weaving sector has meant that world demand for its main line it has largely been overseas manufacturers which have benefited from the re-equipment programmes in the wool textile and cotton sectors over recent years.

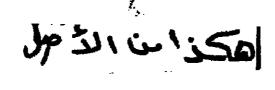
acquisition. The main application of the spent around £100m over the orbit loom at present is seen under a Govern-modernisation high output speed will make it possible to link the machine directly with other equipment for adding backing materials.

made to revive the industry, The key to orbit's success including Government funding however, will be whether it of more than £200,000 towards can later move into the much more demanding apparel fabric weaving area where much finer counts of varn have to be used

Northrop by contrast, is seek ing a place alongside the established Continental weaving machinery groups with a much more conventional machine, although it is the newer shuttleless type of loom. Its problem will be in mounting a successful challenge when faced with the very large development budgets and research staffs available to the established pro-

ITMA 1979 could become the event at which Britain puts itself firmly back into loom build-The group's move has also ing, beginning the recovery of been prompted by the need to one of the industrial sectors it find new products to compen- has lost. It looks, however, like The lack of a competitive sate for the severe decline in a fairly long that,

ducers



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French may seek Concorde spending

BY MICHAEL DONNE, AEROSPACE CORR.

THE POSSIBILITY of limited further spending on Concorde research to keep supersonic airliner technology alive through the 1980s, is likely to be suggested to the British Govern-

He is due to meet Mr. Adam Butler, Minister for Industry, in London on Friday ostensibly for routine talks about clearing up the remnants of the Concorde production programme.

But M. le Theule is expected to take the opportunity to sugsest that rather than wind up the project—which is what the British Government would like to do-the two governments should at least spend a comparatively small amount annually on continued research against the time when a second generation supersonic airline might become

So far, the total bill for Concorde research, development and production has amounted to well over £1bn, divided between Britain and France. The 16 production aircraft authorised have been built. Two are research aircraft, and 14 are for airline service, of which British Airways already has six and Air

Beyond deciding what to do about the three aircraft still unallocated (of which one is in Britain and likely to go to British Airways, and the two others in France which are likely to go to Air France), the remaining task is to clear up the odds and ends of a programme that has lasted since November

The British Government is not anxious to become involved in further Concorde spending, prefering to leave it to the aerospace industry to undertake research as it considers neces-sary to sustain technical knowledge on supersonic airliners.

The UK industry feels, however, along with the French Government, that some continued support from the governments. even at a comparatively low level, is desirable, so as to keep pace with continued U.S. research spending in this field. The argument is that if Britain and France drop supersonic civil research entirely the way will be left wide open for the U.S. to move into a secondgeneration supersonic airliner in the 1990s, just when Concorde will be nearing the end of its | bined annual saving of £600,000.

Offices Bureau heads list of quangos to be axed

BY ANDREW TAYLOR

Bureau is among the 57 organisato be shut are the Constructions named in the first large-tions Industry Manpower Board. The scale Government pruning of quangos—announced yesterday by Mr. Michael Heseltine, Environment Secretary.

However, the scrapping of almost half the Environment Department-sponsored quangos — quasi antonomous non-Governmental organisations will result in an immediate annual saving to the public purse gested to the British Good le annual saving to the public passes ment this week by M. Joel le annual saving to the public passes. Theule, French Transport of only £1.4m. About 60 jobs will also go and 590 quango will be ended. appointments will be ended.
The £1.4m saving is made up

from the cutting of 36 quangos which are to go immediately and a cut of £700,000 a year from Mr. Heseltine's decision to stop funds to the Centre for Environmental Studies, also announced vesterday.

Mr. Heseltine also named a further group of 21 quangos which will be scrapped "in due course "-most of these are New Town bodies which are in any case due to be wound up when transferred to local authorities. It is unclear what savings, if any, will result from the winding up of this second batch of

QUADEOS. Mr. Heseltine also announced that responsibility for a further three quangos — advising on the purchase of works of art; works of art in the Commons and on sculpture in royal parks -will be handed over by his department to Mr. Norman St. John-Stevas, Arts Minister. This will reduce the number

of quangos for which the Environment Department is responsible from 119 to 58. Yesterday's announcements come shortly after the Government has launched a full scale inquiry under Sir Leo Pliatzky

into the operation and future

of all quangos. And Mr. Heseltine made it clear that further quangos for which his department is responsible could still be wound up. He said that the position of the Agreement Board the standards authority for the building industry—the future of which has come under increasingly close scrutiny--was

still being considered. The future of bodies such as the Housing Corporation and the Sports Council looks secure. Mr. Heseltine said that it was highly unlikely that these organisations would be scraped. Of the 36 quangos immediately due for the axe the Location of Offices Bureau and the eight Regional Economic Planning Councils command by far the highest budgets. Their closure will result in a com-Other organisations included

THE LOCATION of Offices in the first group of 36 quangos land in London and on Mersey costing an annual £10,300; the Hadrian's Wall Advisory Committee costing just £400 a year and the Clean Air Council cost-

ing £5,500 a year. Trade union leaders have already strongly criticised the ending of the Constructions Board. This was established three years ago to advise on the "lump" system of paying construction workers — under which workers become labouronly sub-contractors and are paid salaries gross which are not always declared to the Inland Revenue.

Professor Peter Willmott, lirector of the Centre for Environmental Studies said yesterday that he regretted Mr. Heseltine's decision to withdraw funds from the centre which draws four-fifths of its cash from Government.

The centre which employs 75 people would now seek to make up this balance by applying to the Ford Foundation and other American charities said Mr. Willmott. The centre is currently working on four projects for the Environment Department—the study of property markets, urban decline homelessness and regional

planning. Mr. Heseltine also defended his recent decision to establish new quangos -- urban development corporations — to than less because their func-mastermind the redevelopment tions will have to be taken on of 8,000 acres of derelict dock-by Government departments."

The Environment Secretary said yesterday that it was unfair to compare the cost of establishing these two new bodies with savings to be made from the cutting of other quangos. He said that the redevelopment of dockland offered immense opportunities.

On the new towns, Mr. Hesel tine said that he was concerned about the speed with which urban areas were declining while the people going to new towns were those that urban areas could least afford to lose. He had, therefore, asked Mr. John Stanley, Housing Minister, to carry out a complete and urgent review of the new towns. Our labour staff writes: An official of the Association of Scientific, Technical and Manalicly defended quangos said last night that the answer was not to cut them out but to make

them more accountable to Parliament and the consumer. Mr. Russell Miller, nationa officer responsible for ASTMS members in grant-aided bodies, said: "Many of these bodies are safeguards against bureaucratic abuse, being in the fortunate position of being part of government but not responsible

He added: "People looking for their abolition are going to have more bureaucracy rather

The full list

Quangos to be abolished: Advisory Committee on Bird Sanctuaries in the Royal Parks: Advisory Committee on Housing Co-operatives: Advisory Committee on Trees in the Royal Parks: Ancient Monuments Board for Rescue Archaeology (to be re-absorbed by Ancient Monuments Board): Area Archaeological Advisory Committees (13) (residuel functions to be performed by the Inspectorate of Ancient Monuments and Historic Buildings on edvice from the Ancient Monuments Board): Clean Air Council: Construction and Housing Research Advisory Council: Construction and Housing Research Advisory Council: Construction and Housing Research Advisory Council: Hadnan's Wall Advisory Committee (to be re-absorbed by Ancient Monuments Board): Housing Associations Registration Advisory Committee; Location of Offices Burseu: Planning and Transportation Research Advisory Council; Regional Economical Councils (8): Standing Technical Committee on Synthetic Detergents.

nical Committee on Synthetic Detergents.
Quangos to be retained for the present but which will be wound-up in due course: Advisory Panel on Institutional Finance in New Towns; Commission for the New Towns; New Town Development Corporations (16); New Towns Staff Commission: Committee to Examine the Standards of Lawn Tennis in Great Britain; Recreation Managament Training Committee.
Quango from which funds will be withdrawn: Centre for Environmental Studies.

Quangos to be passed to Minister for the Arts: Advisory Committee on the Purchase of Works of Art; Advisory Committee on Works of Art in the House of Commons; Advisory Committee on Sculpture in the Royal Parks.

mittee on Sculpture in the Royal Parks.

Quangos to be retained or further contribered: Advisory Committee on the Protection of Birds: Advisory Committee on the Protection of Birds: Advisory Committee on Rent Rebates and Rent Allowences; Agrement Board; Ancient Monuments Board; British Watterways Board; Building Research Establishment Advisory Committee; Building Research Establishment Advisory Committee; Commission on Energy and Environment; Commission on Energy and Environment; Commission for Local Administration in England; Commons Commissioners; Council for Small Industries in Rural—Area; Countryside Commission: Housing Services Advisory Committee; Letchworth Garden City Corporation; Housing Services Advisory Committee; Letchworth Garden City Corporation: Local Government Boundary Commission: National Building Agency; National Stational Parks Planning Roards (2); National Consultative Council Nature Conservancy Council: Property Advisory Council: Property Advisory Group; Radiosctive Waste Managament Advisory Committee; Regional Water Authorities (3); Rent Assessment Advisory Country, Toyang, Group; Radioactive Wasta Managamant Advisory Committee; Regional Water Authorities (3); Rent Assessment Panels (15); Scientific Authority for Animals; Sports Council; Waste Management Advisory Committee; Water Space Amenity Commission.

Agent to stop acting for Sasse

By John Moore

MERRETT DIXEY Syndicates the Lloyd's underwriting agent, is to stop acting for the troubled Sasse syndicate.

The announcement came yesterday after a two-and-a-hali hour meeting of the members of the 110-strong Sasse syndicate, which faces £20.2m of losses.

Merrett Dixey Syndicates was the agent brought in by Lloyd's to manage the syndicate in May 1978, when it ran into trouble. Under the leadership of

dr. Stephen Merrett, chairman of Merrett Dixey, the syndicate has gained numerous forms of help from the 16-strong ruling committee of Lloyd's to help meet its losses arising from fire and damage to property insur-

Other losses that the syndicate is facing are on computer leasing insurances and liability insurances for fairground and holiday camp operators. During Mr. Merrett's handling

of the syndicate's affairs his relationship with the Lloyd's committee has been stormy. He said vesterday that his iecision was taken because of a combination of events." The Lloyd's committee had acted "without our knowledge"
when it prepared legal action
against 30 members of the
syndicate last week because they had indicated "a reluct-ance to comply" with the Lloyd's audit requirement.

Under this, the underwriting members must return a certificate of underwriting account which shows that their assets are sufficient to meet liabilities. Lloyd's is seeking a declaration that the 30 members of the syndicate should produce their certificate by September 30.

Mr. Merrett said that the legal action started by members against Lloyd's, in which Merrett Dixey had become a co-defendant, also made it difficult for his company to continue to act.

Two Lloyd's deputy chairmen, Mr. Charles Gibb and Mr. Peter Green, attended yesterday's

If the Merrett management is not replaced within 30 days management of the syndicate reverts to the Sasse Turnbull management company and Mr. Frederick Sasse.

One member of the Sasse syndicate, Earl Fortesque, has demanded a public apology from Lloyd's. He was named in the Lloyd's action but said vesterday in a letter to Mr. Ian Findlay, Lloyd's chairman: "If you had taken the trouble to inquire you would have dis-covered that I have submitted a certificate of my assets, confirmed by an accountant, that tors and that I have met the audit requirements."

Feature-Lloyds troubles may lead to reform—Page 16

£½m project to deepen Lowestoft dock

By Lynton McLain

LOWESTOFT PORT, Suffolk, is to be deepened in a £500,000 project to allow ships twice the present maximum size to use it. The British Transport Docks Board has awarded the contract to John Laing Construction and work will start-next month. It will involve deepening the bridge entrance channel to the harbour by nearly five feet.

deep. This will allow ships of removing suspicions of corrup- be prepared within 6,000 tonnes deadweight to berth at the port's commercial widely assumed that the two main bodies and inner harbour.

Indicators suggest downturn soon in economic activity

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

A DOWNTURN in the level of cators, which is broadly in line business cycle.

There is considerable controversy among economic com-mentators as to when the expected recession will start. Some think that a downturn has started, while other believe that demand will hold up for the

rest of this year. The Central Statistical Office's indices of cyclical indicators, published yesterday, tentatively suggest an early downturn.

The composite index of longer leading indicators, which looks ahead an average of 12 months to cyclical turning points, fell again last month to near its lowest level since 1974. This reflected a further rise in shortterm interest rates and a decline in share prices. After a temporary rise in the

early spring this index has fallen for a year, which suggests that output should be at or near a cyclical peak. The index of shorter-leading indicators, which looks ahead about six months, fell in July

for the second month running, though it has fluctuated sharply in the past couple of years. The index of coincident indi- be delayed slightly.

economic activity in the next with the cycle, rose slightly in few months is suggested by July, for the fifth month in a official indicators designed to row, while the indicator which identify turning-points in the lags behind turning points was

broadly unchanged. Officials warn that month-to-month movements need to be interpreted with care because of erratic influences, and revisions to the underlying data.

A turning point seems near. But as yesterday's monetary bulletin from the stockbrokers W. Greenwell said, "given the accuracy of existing techniques whether monetary or Keynesian it is unfortunately not posssible at present to be precise about

Consumer role

The brokers stress the importance of consumer psycho-logy and the level of savings. But they have little doubt "that before long the rise in inflation and the coming rise in unemployment will make people cautious, and that savings will then rise; but the consumer could in the meantime bring expenditure forward to beat future price increases. "If this happens, savings will

temporarily fall, personal loan demand will remain buoyant, and the downturn in the money

Manchester by-election test for Government

first test at the polls in a grasp this second chance to by-election next week at Manchester Central Labour leaders, already confident of victory in this party stronghold, forecast that the

result will reflect rapidly growing disillusionment among Tory voters. Less than six months after Mrs. Margaret Thatcher was

swept to power, they claim that many of her supporters are ready to defect. When nominations closed only last week and his late yesterday, six candidates had entry into the lists is unlikely

entered the contest, caused by the award of a life peerage to Mr. Harold Lever, the former abour Cabinet Minister Mr. Robert Litherland, a printworker and city concillor, defends the Labour majority of

almost 10,000. Reinforced by the results of the local government elections. in which the Tories gained less than half Labour's vote in the area, he says that the poll on September 27 will mark the formal end of the Government's

political honeymoon. servative candidate who runs his own computer business disputes Labour's calculations. Support for the

THE GOVERNMENT faces its chester Central's voters may follow the course set in the Gentral Election throughout the country.

Mr. Lea says that he will

gain advantages too from the differences which arose between Mr. Lever and Labour Left wingers in his local party. and I arem uch closer in the political spectrum . . . I am his natural successor," he says. The Liberal candidate. Mr.

Parkinson was chosen to improve on the Liberals' poor showing six months ago. Some of the floating voe is

expected to go this time to the Ecology Party, which fielded 53 candidates in the General Election, and is represented now by Mr. John Foster a schoolteacher and formerly an active member of the Labour Party. The other two candidatts are

Mr. Seved Ala-Ud-Din, Independent Labour, Mr. William Boaks another Independent who has contested several byelections in recent years. N. H. Lever (Labour) 14.117;

H. P. Cummins (Conservative) 4,413; G. M. R. Wilmot (Liberal) 1.052; D. S. Bentall (National Government's policies remains Front) 365. Labour majority solid, he says and that Man- 9.704.

Builders urged to unite

industry should be prepared to work much more closely together to dispel the industry's poor public mage, says an independent report prepared for the National Federation of Building Trades Employers.

The report is by a working party with Prof. Denis Harper, of Manchester University, as chairman. It says the industry faces a difficult and lengthy nearly five feet.

When completed the channel it does not suffer from indifwill be 68 feet wide and 18 feet.

This feet wide and 18 feet.

LEADERS OF the construction poor quality, says the report. the Federation of Civil Engineering Contractors to draw up a draft constitution for a Confederation of Construction

> The existing representative bodies will not by themselves be able to remove such extremes of prejudice-particu larly when internecine antagonisms among both employers bodies and unions are widely

> publicised. The draft constitution should be prepared within a year, and should then be put before the two main bodies and any other

BP attacks cheap U.S. chemical imports

By Sue Cameron, Chemicals Correspondent

BP CHEMECALS managing director warned yesterday that profits could be "hit hard" by a flood of chesp U.S. petro-chemical imports coming on to the European market.

Mr. Len Burchell said the etrochemical industry in Western Europe was "scared to death" of the threat from American imports.

The problem was being made worse because European Commission civil servants seemed to be either "misunderstanding the position or else trying to avoid the problem altogether."

"We are concerned because there is no way Enropean companies can compete with U.S. imports. Last month, the price of strylans—a basic petro-chemical—was \$370 a tonne in the U.S., while in Europe it was between \$615 and \$640 a tonne.

"The price of propylene, another emportant material, was \$275 a tonne in the U.S. and between \$435 and \$465 a tonne in the European market.

Gas prices:

"These figures show the root cause of the problem in a very real sense. And from a legal point of view, judging by what has happened so far, the exist-ing anti-dumping procedure is totally ineffective. Anti-dump-ing costs can only be made if a country sells abroad at a lower price than in its home market. The U.S. producers are not doing that."

Cheap U.S. imports were already appearing on the European petrochemical market but there was no evidence yet that they were coming in on a large scale.

Acetic acid, one of BP Chemicale' own products, was being offered in Europe by the Americans at £30 a tonne below market prices on this side of the Atlantic. Vinyl acetate also made by BP Chemicals, was being sold at £50 a tonne less than the going rate in Europe.
But the U.S. producers were selling their materials through brokers. It was therefore difficult to know exactly which U.S.

companies were involved.

The Americans were able to sell petrochemical products more cheaply because they paid less for raw materials. European companies relied heavily on oil-based naptha to make ethylens, while the 70 to 80 per cent of U.S. ethylene was made from gas. This was cheaper because the process

In addition, U.S. oil and gas therefore considerably lower than in Europe.

European textile producers had already been hit by cheap U.S. imports which resulted from lower American feedstock

But the European Commission had said that before any action could be taken against the U.S., Europe's textile producers would have to distinguish between America's nat-ural advantage in using gas rather than naphtha as a feedstock and the artificial one of having controlled oil and gas

"It is virtually impossible to distinguish between the two and to say how much weight should be given to each," Mr. Burchell said.

We are dependent on the Commission's willingness actually take action. What we would like to see is a mechanism based perhaps on the unfair competition clause in the Gneral Agreement on Twiffs and Trade — GATT — which could be triggered quickly."

NEWS ANALYSIS • LYNTON MCLAIN ON LONDON TRANSPORT

Jnions accept one man, one train

ONE-MAN operation of Lon-don's underground train system was agreed yesterday, after one of the longest series of negotia-tions in its history. London Transport first tried

to coax the unions towards acceptance of one-man trains 11 years ago.
There was little chance of success, however, but not be-cause of union intransigence.

The 237-mile underground rail-

way was not equipped with roll-

ing stock suitable for operation by only a driver. But London Transport got underground train drivers included in a national pay and efficiency agreement and set the scene for an apparently

never-ending annual debate.

The agreement called for

one-man operations as soon as practicable chapter in the saga came in provision of an extra £17.4m for 1968 as the first one-man growth in the traffic handled. operated trains sped along the new Victoria Line under auto-

ment to all existing lines with their 4,500 rail cars was too expensive. Instead, the LT Board's policy for upgrading there lines to one-man control twice this year by 7.5 per cent that a net denoted of transport had a net denoted of the first policy for upgrading the first poli their 4,500 rail cars was too
expensive. Instead, the LT
Board's policy for upgrading other lines to one-man control twice this year by 7.5 per cent crew from two to one is an first scheme is a pilot venture, was to be based on waiting for in June and 12.5 per cent obvious saving, but this is to be reviewed by both sides ountered partly by the weekly after six months.

The debate with the unions started again two years ago when the first of the new trains for older lines arrived. But the issue came to a head only this year, after the threat of an all-out strike by drivers.

A strike was the last thing the London Transport Executive wanted. The executive's budget for this year forecast an operating loss of over £20m, and the Greater London Council is reducing London Transport sub-

Subsidies

The forecast was based on small increases in bus and train mileage, a £1.5m fall in council revenue support to £54.5m (a Paradoxically this opening £6.5m loss in real terms), and London Transport's operating loss could rise to £53m in 1981 matic control.

This advanced equipment, however, was installed only on the new line. Fitting the equipment and a net deficit of sickness, £1.9m after expenditure of promised yesterday.

London Transport chairman, and to become Mr. William Maxwell, managing man trains. director for railways, to improve productivity among the system's 2,000 drivers. They succeeded. But the agreement announced yesterday is limited in a number of ways.

The scheme will not start until early next year, and will apply only on the Hammersmith and City and Circle Lines. This leaves the District, Central, Bakerloo, Piccadilly and Northern Lines and London

Transport's newest, the Jubilee Line, without one-man opera-

London Transport plans to have one-man operated trains on all lines by the end of the

The immediate aim of the verting the District Line to one move is to increase productivity. man operation is now being But London Transport also ex- delivered. London Transport pects to see more regular train aims to convert this line in 1981. services on the Hammersmith The next phase will be the and City and Circle Lines. The conversion of half the system improvement would come from by 1990, when "very handsome fewer cancellations owing to returns" from one-man operatickness, London Transport tion are expected, Mr. Maxwell

rolling stock introduced after the 1968 agreement was to be capable of one-man operation.

wage bill and reduced support. 7½ per cent bonus payment on All these factors put great basic pay for all railway operations. Pressure on Mr. Ralph Bennett, ing wages-grade staff eligible

For the next two years, the redundant guards will be found gradually, numbers will be reduced as people retire. Mr. Maxwell said yesterday that the bonus payments would

contribute to a £1m loss on the Hammersmith and City and Circle Lines for each of the first two years of the new scheme. But the executive was prepared to support this loss, in the hope that the lines would break even after two years and that the more efficient railway and increase in passengers would

The first of the purpose-built rolling stock suitable for con-

eventually pay off.

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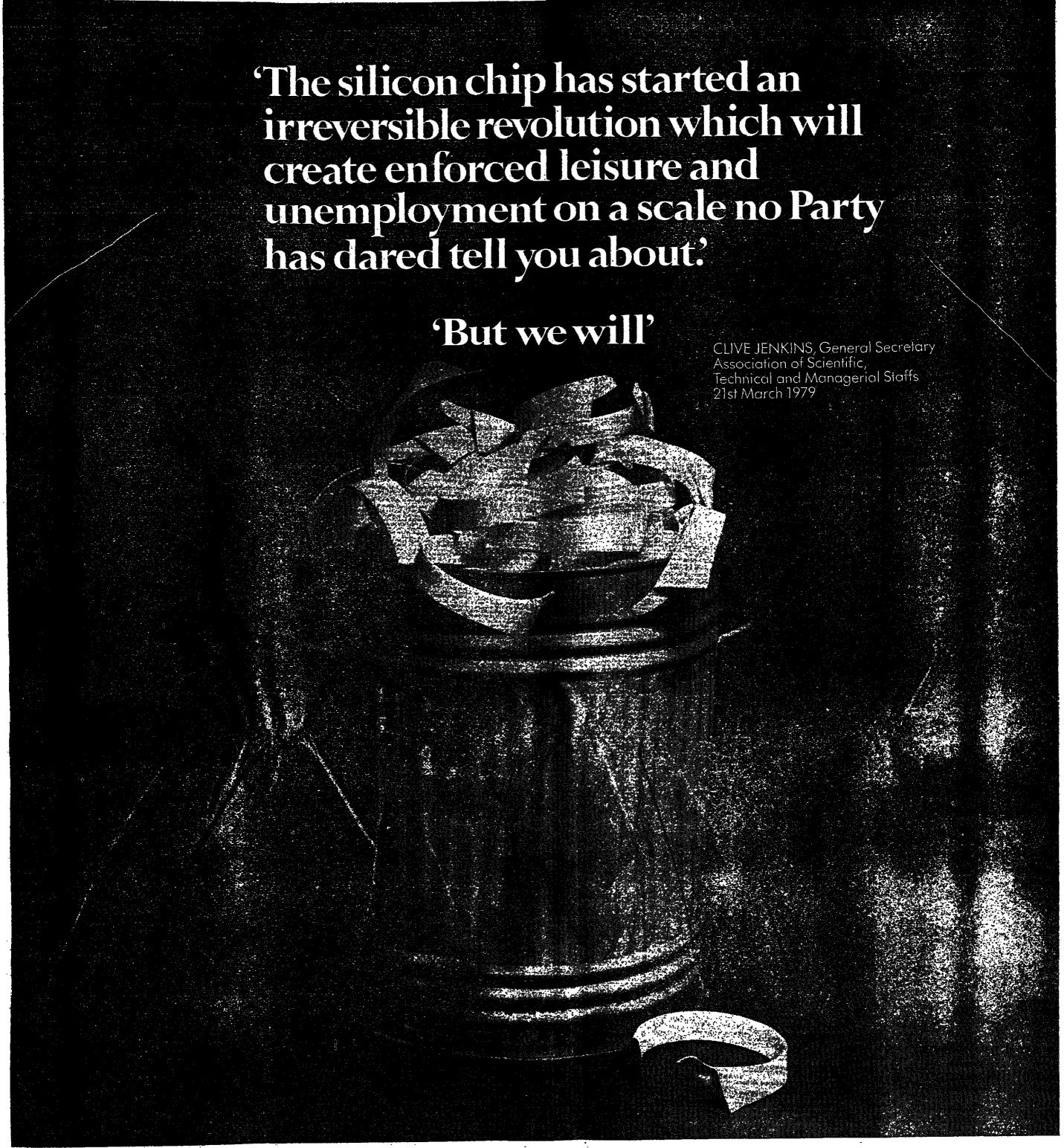
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What is about to happen-what has started happening alreadywill change the world for ever.

In an astonishingly short time the Chip could put about 5 million people out of work. Probably within ten years. Those that can't be retained and given new jobs are likely to STAY unemployed.

Most who lose their jobs in the beginning will be white-collar workers. For the first time heavy middle class unemployment is on the way. Britain's present level of workless is looked upon as temporary. It is. Because soon it will rise remorselessly. And stay up!

But why? Why won't the chip, like other earlier technical revolutions, spawn new industries and new jobs, and soak up

unemployment?
Simply because the chip's actual function is to replace old skills without creating new ones. Even as new enterprises grow so the chip will make sure that only the jobs it cannot eliminate will be left for people to fill.

The Germans call it the job Killer.'
James Callaghan described it as—"the most rapid industrial change in history."

Normald mide les here

It's world-wide. It's here.
Is this scaremongering?

Only if you don't want to face the arithmetic of what is happening. Some economists and politicians believe in a policy of wait and see.

They don't want to alarm you.

But ASTMS has its own highly respected research unit. (Even the Treasury subscribes to its quarterly reports!) And we have done our analyses endlessly. Everything points the same way: to a permanent level of unemployment which will have to be coped with in a completely new way. Around the world other expert bodies are coming to the same conclusion.

Conclusion.

The chip is starting a social revolution.

Ever since man came out of the trees

he has worked to live. Within the memory of
older citizens a working life could last from
childhood to the grave. And from dawn to
twilight. Six days a week.

Even now we are wedded to the old notion of 48:48:48. Forty eight hours a week, forty eight weeks a year, forty eight years of work.

We can only cope with the chip by

changing centuries-old assumptions.

From now on what we do when we are not working will be as important as what we do when we are.

Unemployment is a bogey which has been exaggerated. It will come to be seen as the other half of life—the non-working, more enjoyable half.

We believe that to work as an act of devotion to the concept of working is an absurd idea. In the age of the chip it is sheer folly. Because all it will do is to reduce the prosperity which will flow from the chip's great productivity.

Training for leisure has been talked about for years. Now it must be a reality backed by heavy Government investment.

Fulltime education can't remain what it
has always been for most people, just a chunk
of scholarly activity in early life. It will become
part of your mature years, too. Even life-long.
The educational system should be

expanded now. Hugely. And orientated more towards adult education.

We think this is of vital importance and of direct concern to the members of ASTMS.

We shall grab every opportunity to press the

Government to act, And we shan't give up.

Who will be worst hit?

The heaviest impact, as we've said, will be felt by white-collar workers. Here are just some of the jobs we think are most at risk: Draughtsmen, Programmers, Accountants and Book-keepers, Shipping Clerks, Cashiers, Filing Clerks, Machinists, Mechanics, Warehousemen, Sales and Stock Clerks, Key Punchers, Postmen, Library Assistants, TV Repairmen, Assemblers... and so it goes on.

How quickly will it happen?
It's happening now. The momentum will build up through the eighties.

At ASTMS we saw the 'new technology' coming. We have spent a great deal of time and money in anticipating its effects and planning ahead for the sake of our Members.

We believe that the idea of simple job security is too narrow for the new society suddenly growing about us. Instead it should be altered to 'whole life security.' A concept in which all the needs of people in work and out of work, and in their old age, are planned for. From now on we shall base negotiations.

on this as a matter of *routine*.

ASTMS will have a key role.

And our task will not be simply to defend our Members' interests.

It will be to re-define the terms upon which people work.

Industry and commerce cannot be left to do this alone with all the disorders and hardship the sudden arrival of the chip will impose upon the labour market.

So, is the chip a disaster?

No. It's an opportunity to re-think and re-shape a better working world. If we, you and ASTMS, get together we can grab the unique chance it offers.

It will prove in an amazingly short time to be one of the great and good innovations in human history.

If you would like to know how we believe your job, your family, and your future will be affected by the chip just ring us at this number. *Real* people will answer from 10 to 5 – after that it's the chip again!

TELEPHONE: 01-985 6011 OR 01-985 6466 OR WRITE FREEPOST TO:



Labour

calls for

Scottish

By Ray Perman, Scottish

rate rises

THE LABOUR Party in Scot

land yesterday launched

campaign against Government

spending cuts. It urges local

authorities to minimise the

effect on services by increasing

Labour controls four of Scot-

land's nine regional authorities. Aiready the two largest, Lothian and Strathclyde, bave

said they will not make cuts in

all the areas outlined by the Scottish Office, but will try to maintain the level of services.

Mrs. Helen Liddell, Labour's

Scottish secretary, said the party was not calling on local

authorities to break the law by

refusing to make cuts. But it was asking them to do every-

thing possible to reduce the effect of cuts on the elderly and

Wherever possible, rates and

charges for services should be increased rather than the level

A party document says that Scotland will be particularly hard hit by cuts in local ser-

vices and aid to industry.

level of public expenditure about 20 per cent higher than

the national average has been

crucial to narrowing the gap

between Scotland and the rest

of the country in growth rate, employment levels and earn

The document estimates that

£500m could be cut from spend-

ing in Scotland by autumn. 1980. An immediate target of £150m has already been set; at

least another £175m is to be cut

from Scottish Office services

The rest will come from reduc-

tions in expenditure on nationalised industries, univer-

sities, regional development and

The clash between local and

central government over spend-

ing is the first of several

expected by Labour. Another is foreseen over the sale of

council houses, if the Govern-

ment decides to pass legislation

to override the reluctance of

Labour district councils to carry

Campaign

the disabled

GOVERNMENT ministers, Sir

John Methven, Director General

of the Confederation of British

Industries, and Mr. Len Murray, General Secretary of the TUC,

combined forces yesterday to

launch a campaign to improve

job prospects for the disabled.

They toured an exhibition on

board a train carrying the message to 12 cities that

employers need to know more

Mr. Jim Prior, Employmen

Secretary, Sir Keith Joseph

Industry Secretary, and Mr. Reg Prentice, Minister for the Disabled, were at the exhibition

at Marylebone Station, London.

Mr. Prior said there has

always been a feeling in society

that disabled people cannot do jobs "and that's wrong." He

said the quota system which

obliged employers to take on a

percentage of disabled people

Mr. Murray said he hoped to

see trade unions talking to employers regularly about the

kind of jobs disabled people

The Fit to Work campaign,

launched by the Manpower Services Commission. will cost

as grants which are available

for special equipment for disabled people.

There are 14m disabled people in the working popula-tion of Britain, and another

130,000 are out of work.

had not worked well.

could do.

about the disabled.

out Government policy.

to help

other projects financed in Scot

land by UK departments.

of service reduced.

Merchant

Navy

officers

By Nick Garpett, Labour Staff

UNION NEGOTIATORS repra-

senting 41,000 Merchant Navy

officers yesterday submitted a

cent on pay rates, and longer

The unions also told

employers that they were dis-satisfied with the existing

national negotiating avatem and might attempt to move to-

might attempt to move incompany-level negotiations.

Mr. Eric Nevin, general
secretary of the Merchant Navy
and Airline Officers Association
said the unions did not see

much room for manoeuvre in

the claim, which includes a sub-

stantial improvement in holi-

days as a move towards a scheme of one day on, one day

The unions said the claim's pay element was simed at main-

taining the value of last year's

settlement and was based on increases in the Retail Price

Mr. Graham Turnbull, leader of the General Council of

British Shipping said the council believed the figure of 25 per cent overstated the position.

The unions said the level of:

pay settlement in the industry had been brought down to that of what the weakest company could afford. The general coun-

cil said yesterday that national

settlements involved pulling up

many companies to a pay offer, the level of which they would not otherwise have reached

A settlement for this group

is due in November. Average earnings are just under £12,000 a year for masters, £11,000 for chief engineers, £7,000 for second deck officers and £5,000

Busmen's chief

follows Kitson

in union post

MR. LARRY SMITH, leader of

the busmen in the Transport and General Workers' Union, was yesterday appointed executive officer, the number three position in the union.

His appointment by the

general executive council, may

be seen as providing political

counterweight at the top of the

Mr. Smith, a moderate, and

twice a contestant for the

By Our Labour Editor

for junior engineers.

bolidays.

off working.

Biffen defends monetary policies against critics

ported his argument.

prices generally.

He argued that the key to

inflation was sound monetary

policy. Only such an approach enabled "an economy to

enabled "an economy to accommodate a sharp rise in a

specific commodity, such as oil.

without a subsequent rise in

"That policy can succeed ply if public spending is

stabilised and government borrowing eventually reduced

spending is

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

Secretary to the Treasury, yes- UK"--is bunk. terday strongly defended strict "It is deceptively dangerous monetary policies against the views of "influential policy- politician to transfer part of the and "fair-weather blame for our

In a speech to the North-West Area Conservative Women's Conference at Lancaster University, he put forward a more full-blooded monetarist case than might be supported by some of his ministerial col-leagues and official advisers.

Mr. Biffen argued that oil had provided the false alibi for inflation so often used by Western politicians over the past decade.

The view that an increase in only the price of oil produced a con-stabilised sequential general price rise borrowing eventually reduced throughout the economy—"com- so that interest rates strike a monly and widely held by level which enables credit to

£20,000

offered

By John Lloyd

Computing Centre.

for micro

inventions

Corporation and the National

its kind this month. Last week,

Peterborough Development Cor-

poration offered a similar sum, much of it in the form of rent-

free factory space, for a novel

The latest competition will be

open to individuals, institutions

and companies — including

foreign-owned subsidiaries—based in the UK.

The prize money totals £20,000, split between two cate-

gories. The first, for entries with

a working model, will attract a

first prize of £10,000. with second and third prizes of £5,000 and £2,000. The second, for

entries where a working model

cannot be demonstrated, has a

first prize of £2,000 and a second

Mr. William Makinson, manag-

ing director of NRDC said that

in the field of microprocessor

amplication, the UK "is not

doing enough and it is not going repidly enough." He had been "very agreeably surprised" by

the interest shown by companies

in the new technology, and in

the number of applications to

schemes.

the Government for assistance under the various support

"The late 1970s sees Britain

with only one surviving major

mainframe manufacture in com-

petition with the American

Isle of Man

frequencies

By Arthur Sandles

Geneva this month.

1990s and beyond.

aviation was discussed.

row over radio

THE ISLE OF MAN may set up

its own broadcasting licensing authority to allocate frequencies.

tween the Manx Government and London over broadcasting

Relations worsened when the British Government refused to

allow the Manx Broadcasting

o a frequency conference in

The Manx Covernment's case

is that Britain gave the island VHF and medium wave fre-

quencies which were believed to

be exclusive but then also

awarded the medium wave fre-

cuency to local radio statious on

SY MICHAEL DONNE, AEROSPACE CORRESPONDENT

Commission to send an observer

microprocessor-based device.

It is the second competition of

MR. JOHN BIFFEN, the Chief influential policymakers in the perform its legitimate commercial role."

"It is deceptively dangerous Mr. Biffen said Parliament would be told quite soon of plans for public spending which will be designed to ensure much more realistic projections for inflation upon the swarthy foreigner." Mr. Biffen said the the next few years. This will be an indispensible precondition to recent report of the General Agreement on Tariffs and securing the economic circum-Trade (GATT) secretariat supstances for lower interest rates.

> He stressed that the real test of this policy lay in the determination of the Government to persist with it when "the fair weather faint-hearts fall aside.

> The Prime Minister and the Chancellor of the Exchequer have set their minds and wills to see that a policy of sound money, thrift and enterprise will get a proper opportunity. The vindication of such a policy will need time—a politician's most precious commodity."

Suppliers to discuss telephone sales move

the Government's decision to end the Post Office monopoly on the supply of equipment to the consumer. telephone subscribers will start A COMPETITION to find the best invention which uses a microprocessor was launched jointly yesterday by the National Research Development later this month.

unions within the telecommuni-

Industry will wait until the Monopolies Commission reports its findings on the postal side of Past Office activities before discussing how the split of the two divisions will work in

practice. So far the three main equipment suppliers have express a mixture of reactions about the end of the equipment monopoly. Standard Telephones and Cables, the UK subsidiary of U.S. International Telephone and Telegraph, is enthusiastic about being able to offer a wider choice of equipment to users, provided it is suitably approved. Relaxing the monopoly will allow a larger range of telephones on to the market. Telephone answering machines,

TALKS ON the implications of over the telephone networkand automatic dialling systems can also be offered directly to

STC believes ending the monopoly will benefit consumers The talks, between the Department of Industry and manufacturers. It wants to see a quick but orderly transimain Post Office contractors, will include Standard Telephones and Cables. Plessey, the General Electric Company and unions within the telecommunity. Post Office.

But Plessey, another major It will take at least until the Post Office supplier, is more end of the year to complete the discussions. The Department of managing director of Plessey Telecommunications and Office Systems, said: "We have noted the change with interest and look forward to promised consultations."

Standards

General Electric, the third supplier, has refused to comment until it ha; assessed the situation more thoroughly. Ending the monopoly does not mean that any manufacturer will be able to sell telephone equipment for people's

Equipment will still have to come up to the standards set by the Post Office or any other regulatory body in control of facsimile equipment—which standards, to ensure that it does allows the transmission of not affect or degrade the overall pictures and typed documents telephone network.

Women buy more wine than men, says Stowells

BY OUR CONSUMER AFFAIRS CORRESPONDENT

riants. Whether we like it or not, we must also face the fact from men as the main buyers the housewife. that the world of micro-electronics has its centre of of table wines for home conravity many degrees west of Greenwich. The challenge now is to make our strength the

> cent of all wine was bought by women and 19 per cent by men. The rest was bought jointly by husbands and wives, but the choice was clearly influenced by women. Wine sales total £1.65bn a

year in the UK. Mr. Norman Webber, Stow-ells' sales and marketing director, said yesterday: "Everyone in the wine business will have to consider the influence of women when marketing wineor they will forfeit sales."

Stowells is changing its marketing strategy to give its THE MAN who introduced the wines more appeal to women. Police Panda Car, Mr. Bill Two of its major brands—Cor-Palfrey, died last night aged rida and Toujours—will shortly be selling under new labels designed to appeal to women. The growing importance of women is largely because of the rapid increase in take-home sales as well as the bigger demand for dry, white wines. Whitbread's take-home sales rose by more than half last year as more supermarkets and viously they had other High Street outlets made on the telephone.

WOMEN ARE taking over wine more easily accessible for

In the first five months of sumption in Britain, according 1979, white wine sales rose by to figures released yesterday by more than a quarter to reach the Whitbread wine subsidiary, 10m gallons. Stowells predict Stowells of Chelsea. that the lighter-drier, Riesling-Stowells said market re-style wine will be the real search showed that about 26 per growth area in the UK light wine market.

shortly plan to sell a white when from Czechoslovakia. The company claims that this wine-St. Czech wine to be introduced

Palfrey, died last night aged

Mr. Palfrey, former Chief Constable of Lancashire, was involved in another famous about £350,000 and aims to tell name—the Lancashire force's employers about facilities such Z-Car patrols, which became a household name through the BBC television series. He also equipped all his officers on the beat with two-way radios. Pre-viously they had had to rely

For this reason Stowells

Panda and Z-Car man dies at 73

Chrysler strikers ignore Ryton closure warning

BY ARTHUR SMITH, MIDLANDS CORRESPONDENT

in Coventry vesterday to con-pledged support to fight any in Covenity Vesteraly to coin pleage to the tinue their 11-week strike in move to close Ryton. tinue their 11-week strike in move to close Ryton. The tinue their 11-week strike in move to close Ryton. spite of a management warning that it could mean closure of the

Nearly all 2,000 employees from the plant which assembles the Alpine model, attended the mass meeting and gave overwhelming support to shop stewards who recommended that the action should continue.

Union leaders revealed during the meeting that stewards at year, has offered a 51 per cent the neighbouring Stoke engine factory—where 3,100 workers walked out 10 weeks ago over

CHRYSLER UK workers voted the same pay dispute—had man of Chrysler UK, warned last week that closure of Ryton could be necessary "in weeks rather than months" unless

> He insisted that the only way to higher earnings would be through a self-financing incentive scheme. The company, taken over by PSA Peugeot-Citreon at the beginning of the wage increase in reply to the workers' demand for more than

Mr. Tony Lloyd, the engineer ing union convenor, at Ryton, warned workers yesterday that Chrysler might take the decision this week to close the plant. But he insisted that the conditions attached to manage-ment's offer were "intolerable the dispute was settled quickly. and completely unacceptable."

 Vauxhall Motors yesterday held confidential talks with plant and national union officials on a pay dispute which has halted all work at the company's Ellesmere Port factory on Merseyside. The company has offered increases worth 17

AUEW may debate its stand on Labour Party reforms today

BY OUR LABOUR CORRESPONDENT

Engineering Workers' national future Labour manifestos. But conference may debate today Left-wing members of the delehow the union is to cast its gation would see a vote from block vote on the proposed reforms of the Labour Party at strong bargaining factor on their the party conference next side when the delegation meets month.

No mention on the subject appears on the agenda for the union's conference. which opened in Eastbourne yesterday. but efforts were being made last night to persuade the standing orders committee that the sub-ject should be dealt with through an emergency motion. The conference could not instruct the union's Labour Party delegates on how to vote on repersuade workers at Robb with selection of MPs, election of the Caledon, Dundee, to accept the cies.

in Brighton before the conference to decide its position. The Left is already cautiously

optimistic that it will have a majority on the big engineering section delegation, although the union's executive is now under Right-wing control. A decision at the conference

difficult for union leaders to

THE Amalgamated Union of party leader and preparation of rundown of their shipyard. Delegates unanimously adopted a resolution moved by the engineering section division covering Dundee, instructing the executive to demand no contraction of the British shipbuilding industry and to support workers fighting to save their

> Workers at Robb Caledon are standing out alone against British Shipbuilders' proposals to shed 6.000 employees although the Corporation and the Confederation of Shipbuilding and Engineering Unions yesterday may make it more have reached agreement on means of secking to do this without compulsory redundan-

Jenkins begins recruiting drive

BY NICK GARNETT, LABOUR STAFF

A MAJOR recruitment drive, achieved over the last decade. based on the job implications of the silicon chip and geared principally towards staff in banking and finance houses, was launched yesterday by the Association of Scientific, Technical and Managerial Staffs.

The campaign broadly coincides with the opening of an ASTMS office in the City next January, merger discussions with APEX next month, and amalgamation talks with one other small TUC-affiliated union and two small staff bodies outside the TUC. ASTMS, along with a number

of other white-collar unions, is

The recruitment drive has been hit to some extent by the refusal of British Rail and London Transport to carry the union's advertising campaign. Mr. Clive Jenkins, the union's general secretary, said yesterday British Rail said the decision.

had been taken by British Transport Advertising, which controls advertising on British Rail and within the National Bus Company.

Sir Peter Parker, British Rail chairman, wrote to Mr. Jenkins yesterday saying the ASTMS campaign would meet with total opposition from one of the rail

Sir Peter's letter says his concern was to prevent an inter-union wrangle which could have unpredictable consequences for the railways. The TSSA opposed an ASTMS recruitment campaign on British Rail several years ago.

ASTMS intends ringing rail and Underground stations with advertising on the micro-chip, concentrating on City com-muters and other financial centres such as Edinburgh and Manchester.

Mr. Jenkins said yesterday that eixsting staff bodies in finance, including (though not specified by name) the Banking. Insurance and Finance Union, finding it increasingly difficult to unions, the white-collar Trans- did not have the resources to maintain the growth rate port Salaried Staffs Association. fight a job protection campaign.

Union launches school meals campaign

A CAMPAIGN to fight proposed cuts in the school meals service next year has been launched by the National Union of Public Employees. The union says the proposals

will lead to between 30,000 and 45,000 redundancies among the 300,000 women workforce. It plans to involve other unions in the educational difficulties in school kitchens service, the TUC, Labour MPs where cuts are being impleand parents' groups in the

campaign. Last month the union drew up a guide for its 720,000 members outlining industrial action in retaliation planned for the school meals service but there could be

Mr. Reg Race, Labour MP for Wood Green said yesterday the Department of Education and Science has said it would be against proposed spending cuts.

Mr. Alan Fisher, NUPE on local education authorities general secretary said yesterday industrial action was not 5 per cent cut in public spendremoving statutory obligations on local education authorities 5 per cent cut in public spending for 1980 to 1981. The cuts, which need final

Cabinet approval, would save about £200m a year.

Layoffs fear in State pay row

as the selective strike action over the 22-30 per cent pay offer begins to affect operations at defence and other establish-

A spokesman for Devonport dockyard, which employs more than 12,000 workers, said yesterday that large numbers off on full pay yesterday after

workers face increasing layoffs drivers, lockgate operators and as the selective strike action other staff continued. Action by the crane-drivers in equipment. particular has halted work in

some areas of the yard because supplies are not being moved. About 2,000 workers at the could be laid off later this week the centre's computers were

industrial if the action by about 260 crane- shut down last week because of action by maintenance workers who operate air conditioning

> All flying at the experimental aircraft establishment at Bos-combe Down, Wilts., has been halted after more than 300 fitters and electricians were suspended without pay for refusing to work normally.

important position

general-secretaryship, succeeds the Left-wing Mr. Alec Kitson. who will move up to deputy general secretary when Mr. Harry Urwin retires next year. national secretary for passenger

New name on **ACAS** council

MR. JAMES PRIOR: the Employment Secretary, has appointed Prof. Ben Roberts to the council of the Advisory Conciliation and Arbitration Service from October 1.
Prof. Roberts replaces Prof.
Hugh Clegg, who resigned earlier this year after his appointment as chairman of the

Standing Commission on Com-

Air India dispute ends

AIR INDIA has resumed normal services from London after a month long dispute. Flights have been ending at European airports.

port and General Workers' Union agreed on a return to work formula over the weekend. The deal gives Air India staff pay rates in line with those at

THE ITY DISPUTE

Technology becomes key issue

to end the six-week blackout in Independent Television has changed markedly from the beginning of the dispute. Then, it was a straightforward pay issue. Now the key issue to both sides is new technology. New technology in broadcasting has taken on much of the emotive content the term acquired in newspaper publishing-indeed the com-

to The Times dispute. They see technology as a way of improving programme out-put particularly in news and current affairs programmes. and say that television is falling behind other countries' techno-

panies make constant reference

logies. The television unions, particularly the Association of Cinematograph. Television and Allied Technicians, consider introduction of new technology coupled with reduced manning levels a threat to jobs.

ACTT is well aware of the effects of new media technology because of the rundown of the cinema industry, where thou- end overmanning and that tration Service auspices on sands of lobs have been lost, without it much work, includ- September 7 this had hardened

THE EMPHASIS of discussions levels are closely linked. ACTT is sceptical of the Independent unless they use the present Television Companies' Associa-tion claim that it would mean technology agreement, the expanded television production to absorb displaced staff.

> electronic news gathering (ENG) equipment the team would at most consist of a reporter, sound recordist and cameraman. ENG gives instant transmission of material on video tape and eliminates processing. Capital costs of installing

the equipment may be much higher than the equipment used at present Cameras cost £20,000, editing machinery transmission equip-.000,003 ment £10,000; one television executive has put comparative cost of new equipment to old at 2½ to one. The companies as a group

say benefits of faster service and lower labour costs will mean better programmes. Company spokesmen say it could Advisory, Conciliation and Arbi-New technology and manning ing documentaries, could cease. on the ITV side to a matter of equipment.

unions can push up pay claims o absorb displaced staff. in new agreements on a piece-Thames Television sends out meal basis. ITV unions have a team of eight to 10 people used this tactic with great to cover a news story. Using success.

> There are varying reports as to when the new technology issue became crucial to the dispute. The start of the ACTT strike and the lockout of the National Association of Television, Theatrical and Kine Employees and the Electrical and Plumbing Trades Union was simply about pay.

> Introduction of new technology and manning agreements by Mr. Ronald Carrington, labour relations adviser to the companies' association, in the third week of the blackout was initially viewed as a way for the companies to pay staff more money.

> But by the time of the talks between the two sides under

Several companies fear that principle; no new technology ITV managements say they

are fed up with what they call the continual guerrilla warfare of the unions, and in particular ACTT. Two companies are apparently keeping the others in line, Paul Fox, managing director of York-shire Television, is regarded by

many as the real power in ITCA. and as wanting to make sure the companies win the agreements they want. Granada is the other tough-liner. The companies say they are prepared for a deal worth about

16; per cent, plus 4 or 5 per cent for new technology agree-ments. Craftsmen in NATTKE would be paid an additional 4 or 5 per cent arbitration award.

The BBC watches the ITV dispute avidly. Many of its senior officials believe ITCA is in one sense fighting their battle for them. A year's ENG agreement with the Association of Broadcasting Staff has not been renewed. The corporation is engaged in "delicate" negotiations with the union about new



be explored further. This follows last week's four-day conference in Stuttgart, except Saudi Arabia, are repre-sponsored by Lockheed Aircraft of the U.S. and the West but Saudi Arabia is expected grammes

Team promotes hydrogen as aircraft fuel

German aerospace industry, at to be invited to join soon, which the possibility of using convince governments that they liquid hydrogen as an alternative to peroleum fuel in civil The conference, attended by experimental programme, last-

ing several years, to study the use of liquid hydrogen. The they would venture would be funded by a venture. the participating governments. One idea put forward by Lockheed Aircraft is for a small all-cargo airline to be set up. using modified TriStar airliners. and flying regularly between the U.S., the UK, West Germany and Saudi Arabia. This would cost about £600m

for the four aircraft envisaged.

A TEAM of international ex- aviation and related industries and all the ground installations, considered an alternative to perts from seven countries in- from the U.S., UK. Canada, The aim would be to study in liquid fuels for airliners, cluding the UK is to explore France, Japan, Saudi Arabia, detail the practical possibilities, would be too heavy and ways to promote liquid hydro- Switzerland and West Germany, and limitations, of making, stor- expensive to develop and use, and an airliner fuel in the agreed that the matter should ing and using large quantities Pending the success or othering and using large quantities of liquid hydrogen fuel in civil

be invited to join soon.

London yesterday that the The team's objective is to Stuttgart meeting had agreed that such an airline was feasible, should ask the International and that it would be worth Energy Agency to start an establishing.

The matter was something for governments to consider, since they would have to finance such

Mr. Brewer said liquid hydrogen was as cheap as jet aviation fuel, and it would become cheaper. It was also a more efficient fuel for aviation than either synthetic jet fuel derived from the liquefaction of coal, or liquid methane.

would be too heavy and too wise of the international team in convincing governments of Mr. G. Daniel Brewer, the need for liquid hydrogen manager of bydrogen pro- experiments, Lockheed would grammes for Lockheed, said in continue its own research, at its the need for liquid hydrogen own expense. Members of the technical team include Mr. Willis

Lockheed,

Dr. K. G. Wilkinson, deputy

Willis

U.S.

chairman of British Airways; Mr. E. Simon, Lufthanso; Mr. A. S. Strub, EEC; Mr. J. Plenard Air Liquide, France; Mr. C. J. Winter, West German Aerospace Industry Research Association: Mr. E. E. Ecklund, U.S. Department of Energy; Mr. G. G. Kayten, National Aeronautics Space Administration Washington; and Mr. Neil Gore, Canadian Department of Trans-Nuclear power was no longer port.

かかいいら

Hawkins,

materials, the laser technique

which a desirable change in

In magnetic bubble films of

gallium-substituted yttrium-iron-

garnet, the technique can produce a redistribution of the

sites occupied by gallium and

iron atoms. The redistribution

of atoms results in a film in

which hubble domains are

smaller and thus allow a given

The film is undamaged in the

process, as shown by the fact

that it returns to its original state when annealed in a fur-

film area to store more data.

and independently Rockwell's 256K-bit

control modules.

memory devices.

applications

memory devices, one Megabit

Motorola will also be

source for certain support cir-cuits designed for production

The agreements also provide

for adding future devices and

software products in both

bubble memory and M68000

memory modules and

bubble

SOFTWARE

Teaching computers to speak English

REPORTED ON briefly in this understands 30 largely comput-page late last year, the Djinni ing orientated concepts such as method of controlling a computer by simple instructions in etc. plain English has come a long way since then. Several commercial applications are running and can be demonstrated. In particular, they will be shown in operation at the Northeastern Computer Show in Boston, Mass, towards the end of this

The most important thing about Djinni is that it does not compel a computer user to learn a formal-and frequently convoluted-language and procedure before working on a computer equipped with it. This stems from the fact that an instruction can be phrased in several ways provided it remains in simple English—for instance: Multiply item 3 by item 4 to get item 5 or; item 5 is the same as item 3 times item 4 or again; calculate the product of item 3 and item 4, this is item 5, etc.

ing orientated concepts such as add, copy, print, subroutine,

It will deal with a limited con-

There are, for the time being, a number of rules to be learned, largely dictated by the equipment to be used. But these are not numerous nor are they

does is to evaluate statements in English, decide on their meaning and automatically translate them into the CBASIC language. It also operates in reverse to produce statements (automatic

Developers of the method say

Further from Berkeley Enter-

• ELECTRONICS

Work tool for many users

DESIGNED in order that there should be no hiatus during a 20 to 120 Mbytes, this approach development or in day to day is said to provide easy and fast performance, and also accom- access to a very high performmodating the varying needs of ance operating system (occupy-up to six separate people in ing some 200,000 bytes) plus simultaneous projects, is a logic virtually unlimited storage for development system by Hewlett program development. Packard, King Street Lane, Winnersh, Wokingham, Berks broad support of currently avail-(Wokingham 784774). able microprocessors and antici-

Code-named Pisces, the 64000 pates new trends in the market aims to take the mystique out of microprocessor - based product

Because up to six team members are able to use system processors are under develop-affecting ment, says the company, and development harmoniously without affecting the others' workloads in developing hardware and softsoft- Basic system comprises and to H-P hard disc, workstation and ware. it is possible to H-P hard disc, workstation and co-ordinate and complete pro- printer and up to five addijects without loss of time or tional workstations can be added

In this "magic box " syntax ing on-going development pro-rrors are virtually eliminated grams. However, systems can errors are virtually eliminated grams. However, systems can with directed syntax and soft be designed to match a custo-keys labelled by the screen, and mer's current needs and says powerful workstations sharing H-P, expanded without difficulty

text of statements about variables and their relations; the special variables are not included in the basic vocabulary.

What the Dilinni black box Muirhead's fast facsimile machines

documentation) in plain Eng-

it can be equated to the work of a department manager giving an instruction how a job is to be done to a new clerk.

So far Djinni-B understands prises, 815 Washington Street, 110 English words. It also Newtonville, Mass, 02160, U.S.

With storage capacities from

The system architecture allows

-such as 16- and 32-bit devices

8080, 8/85, Motorola 6800 and

Zilog Z80-are fully supported.

will shortly become available.

at any time without interrupt-

Four widely used units-Intel

Emulators for other micro-

The K6400 incorporates the "T30" facility which means it can communicate with any other manufacturer's Group 2 machine

> The K3000 is a digital machine that can deliver a high quality

> > Industrial

Systems is the most advanced

paper-making machine control

system to be offered by a British manufacturer.

£100.000 by NRDC, it compares

favourably in cost and perform-ance with imports and will be

unveiled at a conference and

exhibition to be held on September 18-20 at Great Danes

Hotel, near Maidstone, Kent,

organised by the Institute of

Measurement and Control.

Developed with the assistance

Gauging

at the flick of a switch.

AUTOMATION

• IN THE OFFICE

entering his life (without know-

veyor, quantity surveyor, estate

based on a Texas Instruments

Muirhead is one of the most advanced analogue machines of

its type in the world. It com-petes on speed with digital machines, which are consider-

Four speeds are available in

the one machine—30, 45, 60 and 180 seconds (for a standard A4

document). No other compar-

able machine (CCITT Group 2)

can transmit as fast as 30 sec-

onds and speed is increasingly

important to combat the escalat-

ing cost of telephone line time.

ably more expensive.

moving averages.

K6400 facsimile transmitter by document). Solid state operation-including solid state scanensure utmost reliability. The K3000 has been designed

calculator to write programs

necessary), metric conversions,

The valuation section features

The programs are split into a report).

Chips for the property men

micro-technology the calculator.

ing that the magic chip has designed for UK surveyors'

could, however, revolutionise Gazette" with programs his day to day routine, save designed by consultant surveyor

valuable hours of office time Nick Noton (who developed the

and also cut down unnecessary project from his use of a T159

agent (and those connected five sections—general purpose,

with these professions) is an valuations, special surveying advanced programmable calcu-functions, office aids, mathe-

lator whose micro-memory has matical aids. General purpose

33 programs covering metric programs include calculation

conversions to the most complex of areas (no scale plans are

Called the Micro Owl, it is and measurement of premises.

programmable calculator which discounted cash flow as well as

can be adapted for specific years' purchase calculations for

Now available to the sur- for his own use).

as a stand alone unit for the high speed transmission and reception of mail, either locally or internationally, or, in con-junction with Muirhead computer/facsimile interface equipment, as an input/output device for computer stored data-particularly in word processing

A third unit that will be launched at Telecom 79 Geneva is the upgraded K442Ganalogue facsimile machine.

Prime improvement is the incorporation of the T-30 faci-lity for completely automatic recognition of, and communication with, any other type of facsimile in as little as 15 facsimile machine in either seconds (for a standard A4 CCITT Group 1 or 2.

NRDC SAYS a new unit by in the paper-making industry using multiple computing ele-

efficient and economic running

It has multi-loop automatic

of the paper-making machine.

control, multi-colour visual dis-

plays and process analysis

facilities. A further facility.

believed to be unique is the

with a range of basis weight and ments to achieve the data pro-

moisture gauging systems. The cessing power usually confined

processor and software tech- three-wire communication be-

and control system that includes system; this allows optimum all the features required for location of the video displays,

Paper-making under micro control

The K442G-T30 allows the sender to choose the transmission speed to suit the document by presenting the operator with an illuminated display of the alternatives availabledepending on which type of machine it is sending to. It has four basic speeds-2, 3, 4 and 6 minutes (for a standard A4 document) but with an additional 6 minute high resolution speed designed to handle docu-

with gobbledegook and is

written in good, plain and often

Micro Owl, The Manor House,

Uppingham, Leics.

DEBORAH PICKERING

friendly English.

(057-287 478).

Morcott,

programs deductions.

Its "auto-answer" facility means reception can be made automatically. An operator at the receiving end is not required.

Muirhead Data Communications, Beckenham, Kent BR3 4BE. 01-650 4888.

boards and digital displays for

Boyle Industrial Gauging

Systems, Northfleet, Kent DA11

management

control and

excessive cabling costs.

RESEARCH

Better bubble film

ing the properties of magnetic allows a sample to be heated bubble materials by laser precisely to a temperature at THE SENIOR partner in a application by changing a tiny freeholds and leaseholds with rather reactionary surveyors silicon chip programming every possible permutation of practice may baulk at the module inserted in the back of tax and sinking fund. Special bubble materials by laser annealing, followed by rapid cooling to freeze-in the annealed crystal structure occurs. surveying functions range over It is the first module actually estimating and quantities, data structure, have been developed designed for UK surveyors storage, levelling, contour plot- by scientists of International by scientists of International already made his wife's aquaintance on the home-front). It with the backing of "Estates age, forestry and grant
could however analysis of County" Business Machines.

They are based on the fact that a laser beam can heat a small The Micro Owl can be used region of material to a high by itself on site, for finger-tip temperature so rapidly that the information, or on a desk top surrounding material remains with its printer (then the cool. As the laser is scanned figures can be incorporated in across the material, the regions that have been heated cool so rapidly that their high-Cheering thought for the firsttemperature structure is retime user — the operating manual completely dispenses

Potentially an extremely versatile tool for tailoring the 218, Yorktown Heights, New properties of thin film York 10598, U.S.

COMPONENTS

Sharing out the know-how

IN A MOVE that will save a Group, Phoenix, Arizona, will great deal of development receive technology to produce money Motorola Inc and Rockwell International Corporation have made an exchange and alternate source agreement covering Motorola's MC68000 microprocessor and Rockwell's pupple domain memory products.

The agreement provides that Rockwell's Electronic Devices Division will receive technology enabling it to produce and independently market the Motorola MC68000 16-bit advanced microprocessor and selected family devices at its Anaheim and Newport Beach, California.

Motorola's

graphics or fine print. Semiconductor

METALWORKING

Push in robot welding

BRITISH ASSOCIATES of the two big Swedish groups ESAB ment between the companies chamber. and ASEA, respectively major will be a closer integration of Walls. forces in the electrical/electronics world and in welding ing equipment side. technology, have decided to join forces and actively market welding robots in Britain and Eire.

Apart from marketing, the vice that tentative users in this highly specialised area require to make a success of an auto-

new equipment, System 380, to relatively large central 6 and 60 kg capacity robotsutilises the latest micro-minicomputers. It also provides which are of the intelligent types with microprocessor controllers nology to produce a gauging tween the various parts of the in a number of countries, including Britain. They are being applied in many industrial operations, including fettling and deburring, as well as looking after feeds to diecast-ing machines, bagging chemimonitoring, without incurring cals, checking the dimensions of engineering products, as well as tively. continuous welding tasks.

.microprocessor families. Rockwell International is at 3310 Miraloma Avenue, POB 3669, Anaheim, Calif 92803, US.

the two arms of the robot weld-

In the meantime, ASEA has announced the development of a new low-cost thyristor specifically for welding applications. partners will provide the kind Electrical ratings include a of technical and after-sales ser- surge current of 5,500 amps peak and designs are available for voltages of 400 or 600. Two new power thyristors, one

mated venture.

ASEA has been supplying its mains or medium frequencies, and the other for very high power converters, have also been brought out by ASEA. The inverter unit is rated at 240 amps and in voltage grades

from 400 to 1,200. unit coming in voltage ratings of 2,200 to 2,600 or 2,800 to 3,600 2,350 and 1,700 amps respec-ESAB at Medway 34455.

LAINC make ideas take shape

CONSTRUCTION **Specialised** production

building

A NEW approach to relocatable buildings, specifically to meet the special requirements of the electronics industry, has been introduced by F Skipton, Yorkshire,

Production standards within the electronics industry have to be very high. In order to measure voltage to less than 10 nano-volts and capacitance down to minute fractions of a farad, it is advisable to have an isolated room with a distortionfree environment and its own power supply.

Freeline modular units can provide a controlled environment, free of dust and humidity. and they can also be completely isolated and even moved to an area without static reference.

These units consist of a steel space frame with ring beam end uprights and box ply beams to provide a ceiling void and sloped roof. The void keeps down solar heat gain by venting the roof space and can also be used to house services and as an air conditioning plenum

Walls, which incorporate foam insulation, are of Stelvetite panels, or other internal finishes as required by the application. All joints - wall to ceiling.

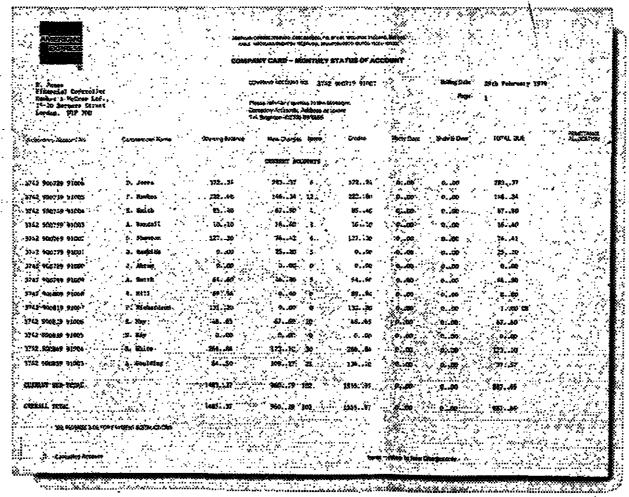
wall to wall, and wall to uprights — are thoroughly sealed and can be double or triple sealed to support positive or negative air conditions. Standard flooring is of welded

vinyl, but other types of flooring can be fitted to the customer's specification. Ceilings are finished in either tiles or laminated melamine board.

Freeline modules, which can be joined together to give a variety of building configura-The thyristor is a heavy-duty tions, are delivered on site ready for rapid completion. Where the customer requires it, and mean current ratings of modules can be fully fitted out

prior delivery.
Freeline. Snaygill Industrial spot-welding and heavy duty ASEA is at 01-930 5411 and Estate. Keighley Road, Skipton. continuous welding tasks. ESAB at Medway 34455. Yorkshire (0756 5719).

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THE JOBS COLUMN

A desperate, but 'hugely enjoyable' gamble

BY MICHAEL DIXON

All his previous experience, culminating in the profit improvements manager's job at Rank Xerox, had trained him against desperate gambles. But the latest marketing intelligence tempted him to try one.

Consumer demand was clearly voracious, probably considerably greater than the combined stock and production capacity of himself and the competing companies. Yet nobody was charging prices of more than £55

The idea of trying to exploit the surplus demand by raising his prices, suddenly became irresistible. He hoisted his charges everywhere to £63.

"It's no use messing about in this sort of business," he told me either the best, or you're nowhere. If the risk I've taken comes off, then I'll beat them all. If it doesn't, they'll trample

And, as it happened, they trampled. When the results of the seventh European manage-

AS THE clock neared six on Saturday evening. Neil Tomkin was in danger of being driven out of business by his competitors from Sweden, Denmark and Ireland.

All his previous experience.

Saturday night, the half dozen men who stepped up before the cameras to receive the trophy were the national champions of Ireland: accountants and planners from Irish Cement. But their final post-tax profit of their counters. £5.4m had left their counterparts from Sweden only £51,000 behind in second place, and the Danish champions in third with £5.3m. Mr. Tomkin's rapacious price increase had left him cold stone dead in the market and, as UK champion, fourth in Europe with a profit of £3.9m. The winners of this year's national competitions in France and in West Germany had both been knocked out in the Euro-pean contest's qualifying round.

Single-handed

But there was much sympathetic applause for the Rank Xerox profit improvements manager. By contrast with the teams of four to six people which had come forward from the other nations, Neil Tomkin had been competing single handed.

So ended another series of the computer-based management championships which have developed, and not just in Europe, since the first nationwere wide contest was staged in the Inter- UK in 1970 by the Financial

start with the new year. It is an "all-comers" contest, because not until the final when all but four of the entries have been eliminated, do teams have to be physically present all in the one place; each of the previous knock-out rounds is played by post or, in case of need, by telex or telephone. The 1979 UK contest, won by Mr. Tomkin in July, included entrants from as far away as Japan.

When the entry lists for the 1980 national championship close about 10 weeks hence the competing teams (there were 1,007 of them last year) will be divided by the contest's adminis-trators into "playing groups" each consisting of three, four or five entrants, All will receive a set of accounts and a market report representing a company and, at the outset of the first and each succeeding round of the competition, all the com-panies will be in the same busi-

ness position. The product which these businesses make, develop and

Chartered Accountants in duct more closely, perhaps changes in broad economic content the third £750, and the fourth begins the next series because, from this morning, the lists are open for entry to the 11th UK championship in which play will championship in which play will corrected the players have been ditions, but also for strikes, also represent the nation in the factory fires and other irritalisms also represent the nation in the produce more of it, and if so, tions. The result is a set of 1980 European championship in which play will or borrowed cash to spend on the playing group how its. As to other attractions. expanding as well as running their factory. At the same time they need to decide how much team then has to decide what to invest in marketing, distriment, management consultants of one sort or another, or even

> There is also the problem of what prices to set in the various markets. In each playing group. every team has a home market in which it has the advantage of cheap distribution, and it can also sell in its competitors' home territories and in a "freetrade" market where conditions are the same for all teams. Occasionally they may compete, too, for a bulk order put out tender by the Government. as impersonated by the administrators of the contest.

industrial espionage.

When the team has made these decisions, they are sent to the National Management Game's headquarters. There they are fed, together with the decisions of the other sides in

business has been affected by that particular "play." Every button, research and develop- or six plays the round ends, and the team in each group which has accumulated the biggest

War of wits

stage of the championship.

profit goes forward to the next

Readers who fancy their chances in this kind of battle of wits should inquire further of the Administrator, National Management Game, Victoria House, Southampton Row, Lon-don WC1B 4EJ—felephone 01-242 7806. No doubt, as usual, a high proportion of entrants will consist of players who have taken part in the past and they presumably know why they are willing to pay £75 for the privilege of repeating the

The attraction cannot be only the prize money which, for the next UK championship, will be businesses make, develop and sell, behaves in the market like a consumer-durable. Nobody has yet bothered to define the pro-

As to other attractions . . . well, employers have increasingly sponsored bulk entries as ing programmes, and players who have reached at least the semi-final—they generally play under pseudonyms up to that point—have told me their success to the semi-final point programmes. cess in the game has certainly done no damage to their reallife careers.

But the most general attraction is probably typified by Neil Tomkin's enthusiasm for returning to the starting line again. Even though he had been trampled on in Europe, he said. he had enjoyed the whole thing

hugely. Next time, however, he will not be single-handed—the rules now require every entry to consist of at least three players. Nor will he again be so tempted to use the price-raising ploy which he adopted late last Saturday. No longer will the game's potential customers be absolutely determined to buy at any price. From now on, if supplies of the product fall generally raised. The winners if supplies of the product fall will receive £2.000 plus two days short of the market demand, at

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quoting reference 3839. INBUCON MANAGEMENT CONSULTANTS LIMITED,

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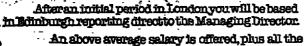
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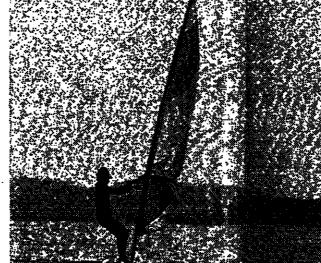
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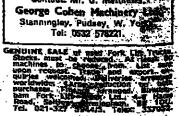
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THE MANAGEMENT PAGE

EDITED BY CHRISTOPHER LORENZ

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Ian Hargreaves travels to the United States amid the pared-down economy of a Cunard cargo ship

Stormy times on the North Atlantic freighter run

SINCE July, 1840, when Samuel Cunard's first transatlantic mail ship left Liverpool for a 12-day voyage to Halifax, Nova Scotia, speed and competition have been of the essence in North Atlantic shipping.

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Today, the blue riband is a prize not worth the pursuit. Its holder, the United States, a magnificant steel and aluminium troopship cum passenger liner built in 1950, languishes at in Norfolk, technically on standby for military duties, but hopelessly uneconomical for her commer-

The price of fuel has ensured that the 40 knots which took her on her maiden voyage from the Ambrose light, New York, to days, will not be surpassed by any merchant ship of existing

But the end of the days of record-busting has not, for Cunard, meant an end to intense concern with configurations of speed, design and operational economy on what remains one of the toughest sea routes in the

Part of this concern, of course, is with Cunard's QE2, cargo which 50 vessels could the last passenger liner running comfortably carry. Adding to the last passenger liner running between Southampton and New York, but of much greater cial onstaught by the U.S. significance is the company's authorities against the Atlantic stake in the transatlantic cargo

The Atlantic Conveyor, one of four Cunard ships in the Euro- marine fuel, whose quality has pean Atlantic Container Line consortium, is not built to be deteriorated. the fastest ship in the water; her intended 24 knots were carefully measured to permit approximately \$7,090 a day the ship to call at three ports on each side of the Atlantic but in filling her tanks twice every still fit into ACL's weekly ser-

The trade is tough because her steam turbine engines it is, or at least it was, rich. In operate. Four years ago the pro-



1973, the volume of trade in-

to wrestle with these negative economic factors at a time when competition, from Russian lines among many others, is getting tougher, that will deter-mine their shape at the end of

already sold off its bulk carrier fleet and similar pressures have caused a 25 per cent reduction in Britain's merchant fleet in the last four years. If Britain is to remain a major maritime power, it is the liner interests such as those in ACL which must provide the bedrock.

This gloomy message has certainly got home on board the at the same time seriously Conveyor, where a principal subject of conversation among ACL estimates that 61 per the 33 crew is the threat to jobs cent of the Atlantic Conveyor's and the squeeze on funds for ship supplies. Just before I running costs is now used up travelled on the Conveyor, a Cunard economy-hunting team round trip with "bunker C had been on board. the sludgy substance on which There are not a lot of obvious trimmings to cut. The Con-

portion was 42 per cent. It is name implies, is built for weeks earlier, on Cunard's and ACL's ability making money rather than to Smaller this stern itself is rudely abrupted

Trafalgar House, which has owned Cunard since 1971, has already sold off its bell.

Her holds have space for ton ramp is eventually raised. Remarkably, the ship sails on time. cargo, from bulldozers to yachts. In addition, she can handle 845 20-foot boxes, four layers of which are lashed to the ship's decks with huge, surface galvanised rods.

times as well as the season, she is carrying only around half her or working in the engine room. maximum 10,000 tons of cargo, For senior officers, the pace is maximum 10,000 tons of cargo, but unlike an American com-Rotterdam, ACL has not taken the trouble to arrange deck almost permanently on the boxes in a fence-like formation bridge and makes do with to disguise empty spaces.

The period in port is frantic as schedules make little allowtimetable after fracturing a veyor, as her matter of fact propellor in mid-Atlantic a few volves a night spent hacking

Darrell Delamaide on the German businessman-professor at

Jim Gladstone, the vessel's chief officer, checks that refrigerated containers full of Dutch bulbs are functioning correctly Smaller things go wrong all provide a graceful shape on the time. In Le Havre, where horizon. Her 212 metres are just six hours have been divided on the sternward side allowed for cargo movement, by a seven-high cluster of decks the ship's main hydraulic system fails, immobilising ramp access to lower decks. Using a by an ungainly hoisted ramp for fork-lift truck, block and tackle the roll-on roll-off cargo. fork-lift truck, block and tackle and six pairs of arms, the 165

day is 11 hours (eight at week-ends) and it is not surprising an overnight stop at Rotterdam, few go ashore. The 11 hours involves a split shift, spent On this voyage, a sign of the either scraping rust, painting, watch-keeping, securing cargo demanding. In the congested Channel waters, the captain is

around five hours of sleep a day. It is a matter of opinion who has the worst job. Deck work. ance for problems and Atlantic even in summer, is subject to Conveyor is already behind the rapidly changing Atlantic

before entering New York The other candidate for worst job is in the engine room, boilers and a labyrinth of hissing, grinding pipes and pistons provide the atmosphere of a turkish bath with grease instead

Sluggish

ACL seamen, in fact, have a purpose agreement which means they can be asked to work anywhere. Their reward is higher than average pay-£5,500 for a middle-grade seaman, including overtime. This figure is slightly higher than a junior officer's pay and helps explain why there is so little transition between seamen and

The Conveyor's engine room is currently a source of some pride, with the 10-year-old ship consistently achieving speeds of between 22 and 23 knots, since it was discovered that earlier sluggishnes was caused by contaminated boilers. The source of the contamination was poor quality—notably Venezuelan bunker C, whose deposits have alone, cumpared with the Con-Likewise on deck work, the

men argue that to climinate the officer in charge of cargo would create unacceptable risks of cargo damage in bad weather. The captain remarks, with no apparent nostalgia, that the days when the master bad a steward to put his socks on are well and truly gone.

Apart from these anxieties, most of the crew would not change their lot. Pay is reasona quarter of the year, food is good and accommodation reasonable. For the scamen, discipline is also much closer these days to that found in an ordinary factory.

Meanwhile on shore, ACL,

like most of the big liner ship-ping companies and especially those on the Atlantic, is struggling to keep its cargo rates in line with inflation. A 10 per cent increase posted January has been almost com-pletely eroded by customer On top of this problem, ACL has in recent months had to fork out \$2m in fines and legal

fees because of its brushes with the U.S. authorities, who maintain that the price-fixing system is allowing the liner companies easy profits. As a consequence of this judicial aggression, ACL and others are now also facing a string of civil damage suits, whose potential magnitude is almost anyone's guess. In these circumstances. Philip

Bates, chairman of Atlantic Container Line Services, the Southampton-based lynch-pin of the consortium, needs all the encouragement of a century and a half of Cunard survival on the route. Inscribed upon silver ashtray in his dockside office is a favourite saying of his uncle, Percy E. Bates, a former chairman of the Cunard thing, but for myself L carry on in a spirit of reasomable but

PROFESSOR Friedrich ment "They were so frustrated," he recalls. "They came inancial officer at Volkswagenwerk AG, has found a sure-fire degrees, but didn't know where way to keep learning—he to begin They had to take a teaches. "I always wanted to back seat to trainees who'd avoid being a country doctor," come fresh from secondary Thomee explains, "going out to school but had spent several practice and never touching a years on the job. ing, I've found that teaching provides a very useful incentive

for keeping up-to-date."

creased by one-third and in the

nology of containerisation and

roll-on roll-off shipping (the Atlantic Conveyor offers both)

has developed from scratch in a

rough and tumble of rivalry un-

matched since the heyday of the

Since 1974, economic reces-

on profitability, with

sion, more severe in shipping

than elsewhere, has put the

around 90 ships competing for

the difficulties has been a judi-

shipping companies joint price-

fixing system and a series of un-

ward spirals in the price of

screw

latest academic work on account- courses couldn't be more practice-oriented. Whereupon the University of Giessen, a renowned institution located in University

Thomee says he began giving a little town north of Frankfurt regular university lectures five invited the motor inustry execuyears ago, not for his own bene- tive to show them the way pracfit, but because he felt sorry for tice should be taught. In the many of the graduates who came winter semester of 1974. Thomée to work in VW's finance depart- who, as a stadent, had studied

he doesn't normally do so.

This year, he is negotiating with the St. Gallen business

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at Giessen and began giving lectures and leading discussions every other week.

Many German executives—for instance, all three chief executive offiecrs of the Big Three German chemical companiescarry an honorary professor title, but most of them confine their professorial activities to an occasional speech. Thomée not only lectures regularly but is the only top business execu-tive known to be entitled to preside over examinations and direct dissertations — although

Thomée, whose course of study takes place only in the winter semester each year, is conducting a five-course cycle at Giessen — accountancy as a means of corporate planning and documentation, controlling, corporate planning, all three activities at corporate group level, and all three in the context of an international corporate group.

book for 20 years. But because Being a man of action, under Karl Schiller, the former school. A group of St. Gallen he first saw some of his new there's a lot of things I'd rather Thomée buttonholed university superminister in Bonn was students spent two days at VW professorial collectures in the

super-minister in Bonn, was students spent two days at VW professorial colleagues in the none in Germany in terms of staff. Another ses made professor honoris causa headquarters with the execulecture hall. "You would see incorporating the latest think planned for next May tive-professor, and now Thomée 35-year-old men reciting their ing," he claims. lecture in a monotone. They is considering how to divide his time between the two schools. put in their 50 minutes and ways of increasing the inter- the w He recalls his dismay when that was it. I think the stress action between theory and tion.

management can keep one headquarters at Wolfsburg near younger and livelier." Hanover, his company hosted

ment. Thomée feels that for his burg part he has gained much through the discipline involved in teaching. "It's part of the reason that VW now has an two days exchanging ideas with

He is now promoting other ways of increasing the inter- the way to becoming an institu-

and involvement demanded in practice. Last May, at VW's Still some years off retire- the second round of "Wolfs-Talks." Twenty-five academic experts in mance.

from universities and research

to be chipped from the boiler

common consent, probably the nastiest job of all. Boilers

should require cleaning only

once a year.
Fuel is the most serious

operational problem for ACL,

which is now trying to decide whether to re-engine its six

Conveyor-class ships with less

thirsty diesel motors. It is also possible that the ships will be

cut in half and extended to

create more cargo space. This would be an expensive opera-

tion, but perhaps cheaper than

the \$30m it would cost to replace the ship. The Conveyor

A new engine would save

perhaps 30 per cent on fuel, but

would mean extra maintenance

and more time in port repairs.

At present, most repairs are

done by the crew at sea, a task

which becomes more difficult as

the machinery ages.
These are the circumstances

in which officers and crew are

resisting owners efforts to

reduce further manning scales.

The Conveyor's chief engineer

points out that 10 years ago a

ship with less than half the

power of the ACL vessel had 38

cost \$11m in 1969.

institutes in Germany, spent accounting system second to 30 members of the VW financial planned for next May and the annual talks under Prof. Thomee's tutelage are well on



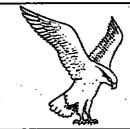


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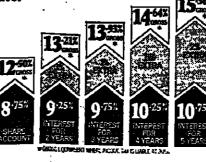
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Full disclosure by the banks

BY MICHAEL LAFFERTY

ing practices of the British the London and Scottish banks continue to plague users clearers agreed to give up their of accounts. The latest contri- privileges and come clean. At bution to the debate comes from IBCA, the banking analysis Act was amended, by statutory group which sells its research to banks around the world, clearers privileges. IBCA's 1979 statistical comparison of 78 British banks is a been cast on whether the useful document, as far it goes; as the authors admit, "the figures from which the ratios are derived lack sufficient precision and comparability, because of differences in reporting bad and doubtful debts, which methods, for the resulting rankmany observers now believe ings to be regarded as defini-

IBCA declared that the general standard of disclosure in the annual reports and accounts of British banks was "inferior to those in other important banking systems." Despite some effort at improvement by the clearers, the same comment is still said to apply. "Relative to the U.S., UK disclosure remains poor and hanks in many European countries provide far more detailed data than are available here.

Judgments

IBCA's criticism applies as much to the presentation of items that the banks already accept should be disclosed, as to the general level of information they provide. "Even where banks seem to take the point that more public information about their operations is justified, they do not use a uniform standard, and widely differing conventions are still apparent the presentation of both balance-sheets and income state purposes. This hardly seems ments, demanding many analy-tical judgments before comparative analysis can be done."

Starting with the clearers and other major banks, IBCA says it is still the case that the large British banks provide less detailed income and balance-sheet information than most other banks analysed. It concedes, however, that the rather sparse

pressure from the National depositors.

indicates programme in

and white.

(Ultra high frequency only). 9.35

1.45 Ragtime. 2.00 You and Me.

2.14 For Schools, Colleges. 3.20 Pawb Ye Ei Fro. 3.53 Regional

News for England (except

6.40-7.55 am Open University

THE CONTENTIOUS account- Board of Prices and Incomes the same time the Companies instrument, withdrawing the

> In recent years doubts have clearers really did adopt full disclosure of profits and reserves after all. Uncertainty centres in particular on the banks' general provisions for This view has been further encouraged by the retention to treat general provisions as reserves for prudential

The clearers apart, it would appear to any reader of the Companies Acts that all other banks are entitled to the exemption, which permits the creation of secret reserves. But this turns out not to be the case. The Department of Trade says that no application for exemption has been granted since 1969. Does this mean that it is the department's policy not to issue any further exemptions? Not so, says a spokesman, "It simply means that no applicant since 1969 has met our criteria.' What are the criteria then?

They are not published," said

the spokesman.

In practice this means that there are probably three separate categories of UK bank for accounting and disclosure sensible for a country which boasts the world's most important banking centre. It is all the more anomalous because the banks which operate in London depend to a considerable degree on the published accounts of each other in assessing risks.

It is also illogical at the supervisory level of the Bank of England. The bank, quite information provided by the of England. The bank, quite British banks probably has rightly, is in the forefront of greater substance than that pubmoves to improve the interlished by many foreign banks. national supervision of banks. The truth is that the UK through the Group of Ten. It authorities' approach to bank is also extending its own writ national supervision of banks quirements appears to have For this purpose it needs neither rhyme nor reason. reliable accounts, if only to Until 1969-70 all British banks check that the detailed data it enjoyed the right to have secret is receiving ties in with what is Then, following available to shareholders and

Switching on to channel five

without the strike-bound ITV kind of picture quality achieved. channel, many viewers have complained about the dull output of BBC1 and BBC2. in desperation, some owners of videocassette recorders have been trying to sift their way through the rubbish by recording better programmes on the auto-clock for later viewing. The trouble is that there haven't been enough "better" programmes to record—leading to the quip that it was "the BBC's way of discouraging illegal TV recording."

Reissues

A few videocassette owners have, in consequence, started to take a more serious look at the rent Bank of England draft
paper on capital adequacy!
which said it was the Bank's inall are reissues of feature films all are reissues of leature films or rather dated television pro-grammes, but a few have been made specifically for the so-called videogram market. Since a number of these have been hailed by their distributors as " Britain's first-ever videogram ' (and I have seen many such firsts since 1972), perhaps I might be excused for adopting the same rash and reckless claim by now writing the world's first review column of videocassette programmes.

recently about what an appal- fically for the videogram market ling summer it has been for —but I have also lonked at a television programmes. Still few reissues if only to see the

> The choice during this bleak televisual summer is hardly exciting. Viewers: of Sunday afternoon movies on BBC would not be disappointed by EMi's offerings—The Third Man, Whisky Galore, The Servant, The Lavender Hill Mob (the latter could also have been seen on BBC in the last week). Brighton Rock and so on Good stuff, but definitely of another era. Meanwhile I viewed parts of their more recent Swallows and Amozons (a 1974 film) which was screened on British

It is a balmy story of children on holiday in the Lake District in the late 1920s. Certainly a decent substitute for some of the off-air American TV-crime rubbish currently on British television screens. But who would pay £40 for such a substitute (the current videocassette price in Betamax and VHS formats)? Better to rent movies wherever possible, but the range available on rental is limited.

television not so long ago.

One rental outlet is Intervision, which offers feature films on cassettes at about £5 for the first three days. But the choice good or significant films is limited — Cries and Whispers, Negatives, Orson Welles' Macbeth are some of the few that gardening programme stuff, with it still looks like a rather good Bill—The Story of a Heron, devote much more money stand out. As a sampler for Michael Barrett looking on and broadcast television programme. This is a sheer delight to watch, imagination to the content.

feature film reviewer obviously The same kind of thing can be Music is the speciality of because after 15 minutes I gave seen on television, and with another British videogram up; we have been here before hardly any difference. Nicely distributor, VGL, whose own

American crime TV movie. The Great British Strip. This trudes at the very moment when broadcasters do and found the is one of the videograms that a question seems to loom in the overall technical quality less really was made specifically for viewer's mind.

FILM AND VIDEO

BY JOHN CHITTOCK

strip routine on a small, satin-draped stage. But I must com-old reliable. draped stage. But I must commend the good camera work and excellent colour quality which was first-rate-and in this case a critical test because in in checking colour quality the engineers always look for flesh

Never mind, I do have a great love for gardening so Michael Barrett's New Life in the Garden had a much healthier attraction. This is straight TV

videocassette viewers. I hope I So far I have to confess that The best I leave till last, a am not setting old, but it left my fifth channel viewing has sampling of IPC Video's range me very cold: a succession of none the less left me waiting which is mostly hopey and

beauty and pictorial excellence one would hope for: a very professional job (but the sound track on my copy a little down in volume level). This programme was made specifically for the videogram market, but

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of peri.

Music is the speciality of on television. It has all the shot, good colour, a better-than first videocassette exclusive, soup-stains of a cheaply-made average use of close-ups (which Ting Turner at the Apollo, is are so frustratingly absent from again very familiar in its style; With greater expectation. I many gardening programmes) an echo, rather hollow, of Top turned to ripping off the shrink- and excellent low-key interview- of the Pops. I did not rate this plastic wrapping on Intervision's ing by Barrett-who only in- anything like as good as the

> The worst technical quality of a generally good batch came in The Lucky Jim Adventure Fishing Show, another Intervision programme and again obviously an American TV re-release (complete with fades where originally the commercial breaks were inserted). Dull, slow and not very informative.

which is mostly hobby and rather plump ladies doing a for the Nine O'clock News, leisure interest material. All of this is reissued material of either television programmes or EMI has done much better documentary films but all wellwith its own "first-ever" chosen and first-rate viewing videogram—Christmas Carols The British Open 1977 is comfrom Cambridge. Made at pulsive for golfers even if they king's College, this has all the beauty and pictorial excellence one would hope for: a very 1977. But for me, the great professional job (but the sound delight was a sponsored film that has been available on 16mm for some time, a masterpiece from the Royal Society for the Protection of Birds, Big

THERE SEEMS to have been. As far as possible, I tried to my own viewing, I took a film asking questions as experts at and indeed was transmitted by with extraordinary photography little disagreement in Britain obtain programmes made specific from their "Action Adventure" the Royal Horticultural Society the BBC twice around Christ that follows the life-style of one particultural society and the BBC twice around Christ that follows the life-style of one particultural society and the second christ particultural society and the second christian society and th atmospheric sound effects of the countryside and a nicely-muted commentary: it is one videoeassette that I would buy to

view again and again. Nevertheless, this exercise has left me dismayed. If videogram publishers and distributors can offer no real alternative to the broadcasters, they might as well give up. During the last week on broadcast television. I was still able to pick up a few isolated gems (such as a brilliant BBC documentary about a Northern steeplejack). Only the heron videocassette could equal this.

Own style

To complete with broadcasting, the videogram must offer the singular, the genuine classic. It must also develop a style of its own rather than merely imitate what broadcasting does so much more professionally.

No doubt in time this will happen. Meanwhile, it is at least encouraging to report that the technical quality of all of the copies I viewed was generally of a very high standard; no ordinary viewer would ever know the difference alongside a broadcast transmission. Now that the videogram industry has got the form right, it must devote much more money and

Riboule can win Belvoir Stakes

Beevor Stakes, she will have greatly increased her paddock

value by this evening. Riboule, a three-year-old owned by Mrs. Cyril Seymour-Newton, is a daughter of Ribero and a full sister to Ribac. She is also a half-sister to two extremely smart per-

RACING

BY DOMINIC WIGAN

formers of recent seasons-Sheheen and Olympios. She was out of the running in two maiden events at Newmarket last season, but ran far better on her only outing to date this

At the one mile three furlong Bracknell Stakes at Windsor on September 3, the Bruce Hobbs-trained filly surprised bookmakers and punters alike by keeping the 8-1 on Ivatan

Matches often prove mislead- colt at the forefront of their ing, and Riboule did have an 11 lbs weight advantage. But a one-and-a-half length defeat

the hands of a colt which Fulke Johnson Houghton had allowed to race in the Prix du Jockey-Club was no mean effort. Riboule is sure to be all the better for that run. She is equally certain to find today's additional three furlongs to her liking, and can beat Foolish

Another sound proposition on an afternoon when punters may fare better than their opponents is Hanu, among the runners for Lingfield's nine-runner Surrey Stakes. This Scobie Breasleytrained youngster is reported to have improved tremendously since coming in fourth behind Bruce Lee.

Although it has been common knowledge among professionals in the betting world for at least four days that Rio Carmelo is 99 per cent certain NOT to run in the Cambridge-

IF RIBOULE wins today's (her only rival) at full stretch opening event at Yarmouth, the right to the line.

Cambridgeshire lists. It was particularly appointing to see the sponsors of that event, the William Hill Organisation, yesterday quoting the Riverman colt a 12-1 joint favourite for their Newmarket

Rio Carmelo will, if all goes according to plan, run instead in Ascot's Cumberland Lodge Stakes.

LINGFIELD

2.00-Petchora

4.30-Body Blow

2.15-Riboule**

2.45-Wanderlust

3.15-Hot Match

3.45-Druimfada

4.15-Miss St. Cyr

-Hanu***

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ELECTRIFIES DAILY MAIL
"WHEN WE HAVE LAUGHED AT ITS
WIT. BEEN HELD IN THE GRIP OF ITS
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Twice nightly Mon.-Sat. 8.00 & 10 Comm Pork at Start semissiveness ever Twice industry Mon. 52t. 8.00 & 10 COMP TWICE IN THE PROPERTY MONTHS HAND THE TWO THERE HASN'T BEEN A MUSICAL IN LONDON FOR A LONG TIME THAT CHICAGO "THE REIGHTEST SOLINCIEST MUSICAL COMEDY IN TOWN." NOW. CHICAGO "WILL SE DELIGHTING LONDON FOR A LONG TIME." SENIOR TWO. "ALL RACTIE DAZZIE" E. News. "WILL SE DELIGHTING LONDON FOR A LONG TIME." EVENING SENIORS." "ALL RACTIE DAZZIE" E. News. "WIT AND STYLE" D'IN EXPRES. "THEPE IS NO COMPARABLE MUSICAL IN LONDON TODAY." S. TEIEBREDN. "A CUPER EVENING'S ENTERTAINMENT." SUNDAY EVENING'S ENTERTAINMENT." EVENING EV "THO"SAND WEICHMES , IT WOULD BE A CRIME TO MISS IT."
Daily Martin. Daily Murror.

Reduced arises for Grouns.

8 1-836 6056 and D1-437 1856.

91-836 6056 and D1-437 1856.

Student nurses. CAPs standay S1.50.

COMEDY TWEATRE. CC. 91-930 2575,
Many Cat. 0 00. Mats. Fri. & Sat. 8.30.

THE COLY FOCK IN ROLL 5HOW

THE ROCKY MARGOR SHOW

COLUMN TWEATRE. TO

DUCHESS: 01-536 5243, Mcn. to Thers. Evs. 8.00. Fri. Fad 1:1. 5-30 and 8.15. OH! CALCUITA! "The audity is stunding." Daily Mail

DRURY LANE. CC. 01-856 8165, Cooks September 25th at 7.00. Previous from Friday 8.00. CAROL LHANNING IN MELLO DOLLY Inch Eddin Braken. Say O'co and cook GROUP BOOKINGS 01-730 2293. ORTUNE CC. 01-836 2238. E.E. 8-00. Thurs 3.00. Saturdays 5.00 and 8-00 AGAINS CHISTIES MURDER AT THE VICARAGE HIFTH CUSAY YEAR

GARRICK, CC. 01-836 4601. Evs. 8 00.
(Sharp), W.d. J.00. Set. 5.30 and 8.30.
GARETH HUNT IN IRA LEVIN'S
DEATH TRAP
"BEST THFILLER." Daily Telepraph.
"VERY INGENIOUS. VERY FUNNY
VERY EXCITING." Fin. Times.

"VERT INGENIOUS VERY FUNNY
VERY EXCITING." Fin. Times.

GLOBE THEATRE. CC. 01.437 1592.

MOD. B Fr. EV 8.00. Mats. Wed. 3.00.

ANTON RODGERS.

GREMMA CRAVEN

DIANE LANGTON

ANDREW. C. WADSWORTH

DAVID HEALY

MONTY NORMAN 2nd JULIAN MORE.
"A TO"ICH OF MUSICAL MAGIC

NOW 'THIS STUNNING OCCASION.

THE 8EST 2RTISTS MUSICAL OF THIS

YEAR AND A FEW GONE BY." Fin.

Times "VERY FUNNY, OFTEN

HILARIOUS. RECEIVED WITH DE
LIGHT: EVA STANDARD.

IS BELLIANT." EVB. NEWS.

GREENWICH THEATRE. CC. 01.858 7752

PTC. WEG. 8.00. Opens Thur. 7 DB. Subs.

800 Mat. Sats. 2.30. THE FASSING.

OUT PRARADE by Anne Valery.

MAYMAERCET. CC. 01.933 9E32. HAYMARKET. CC. 01-930 9E32.
Evenings 8.QD. Wed 2.30.
GERALD 4.30 and 2.QD.
GERALD HAFPER DMARA

The SHERLOCK HOLMES MYSTERY
THE ERUCIFIER OF BLOOD
"The kind of Speciale I cannot retail
since bayhaod lerific state" E. News HER MAJESTY'S. CC. 01-930 6506. Evgs. 8.00, Mars. Wed. 3.00. Sat. 4 15 and 8.15. THE CASE OF THE CILY LEVANTINE

Author of Sleeth

KING'S HEAD.

Dinner at 7.30. Show at 8.30.

Dinner at 7.30. Show at 8.30.

BITS OF LENNY ERUCE

"SHEER BRILLIANCE." Time Out.

AN EVENING OF SHEER REVERBERATIVE RICHNESS. LAUGHTER AND
THE RICHNESS. LAUGHTER AND
"WITTY DELIGHT." Guarding to Stock "E Sed.
"A FUNNIER ENDING MISS." I CAULD
EVER IMAGINE HIMSELF." What'S On.

LYRIC HAMMERSMITH. D1-731 2311.

Now rebuilt and restored to its or ginal
Victorian Sciencour. Theatre 2.785 13
Oct Booking open new for Shaw's comedy
YOU NEVER CAN TELL.

LYRIC THEATRE. CC. D1-277 35°b.

Oct Booking open new for Shaw's comedy

YOU NEVER CAN TELL.

LYRIC THEATRE. CC. 01-4:7 36° b.

EVE. 8.00. Mats, Wed. shed Sat, 3.00.

HISSICA HUME

TANDY

In the Award-winning Comcdv

THE GIN GAME

Directed by

"TWO RARE AND SUPPEME

PERFORMANCES." Guardian

"EXTREMELY FUNNY New Yorker

LAST 3 WEEKS. MUST END 6 OCT

"ANTIONAL THEATRE. CC 228 7252.

GLIVIER (seen stage): Ton't 7.33 Tomor

245 drw price nail 6 7.30 AS YOU

LIKE IT by Shafersoire.

LYTIELTON INDICAMUM SLABET Ten't

Tomor 7.45 DEATH OF A SALESMAN

by Arthur Miller.

COTTESLOE (small auditorium) Mon to

Stat 8.0 WINGS by Arthur Kopit.

Excellent cheap seats from 10 am day of

perf all 3 theatres. Car park. Restaurant

928 2033. Credit card bookings 92E

3062. Air conditioning.

OLD VIC. 928 7816. London Mime 928 2033. Credit card bookings 926
3052. Air conditioning.

OLD VIC. 928 7516. London Mime Theatre. "Futurefool" Evenloss 7.30.

Theatre. "Futurefool" Evenloss 7.30.

In the continuous operations as a savon. 18th century operations and a savon. 18th century operations in the savon. 18th century operations in the savon. 18th century operations in the savon ring 261 1821.

OLD VIC. 928 7516. English Music Thaatre in the world premiers of the sark Kubuki Opera "An Actor's Revence" by Miki (5th, 6th, 10th, 12th October). And Mozar's La Finta Glardiniera (9th, 16th, 13th October).

GEN SPACE, 367 6969, Tues, to Son, 8. Brechts PRIVATE LISE OF THE THIRD REICH. "One of his Space", nost necessary works—chilings." Gdp.

PALACE: CC. 01-237 6834. Mgp. Thers. 8.00. Fr. Sal. 600. 8.40.

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PHOENIX THEATRE CC. D. 935 274.

HOTLINE OT 427 925 274.

HOTLINE OT 427 925 274.

HOTLINE OT 427 925 87 2.29.

PHOENIX THEATRE CC. D. 935 274.

Evenings 7.30. May Weds. 87 2.29.

PHOENIX THEATRE CC. D. 935 274.

Evs. 8.00. Wed 3.00. Sat. 5.00 and 8.30.

SUSAN HAMPSHIRE PATRICK MOWER.

NIGHT AND DAY

A new play by TIM STOPPARD

Directed by Peter Wood

REST PLAY OF THE YEAR

Evening Standard Drima Award ERST MAY OF THE TYPE
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EMERIOS SERVAND OF THE STORM
437 #305. CC. DOORINGS 836 1071
EVS. 6. THUT, 3 and 6. Sal. 5.30 & 8.30
PETER BARKWOPTH
KANNAH GORDON
CAN YOU WERE ME AT THE BACK?
"WONDERFUL MAY WITH WONDER.
CAN YOU WERE ME AT THE BACK?
"WONDERFUL MAY WITH WONDER.
"ARTICLETE AND WITH! WONDER.
"ARTICLETE AND WITH! WONDER.
"ARTICLETE AND WITH! WONDER.
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"ARTICLETE AND THUT!. Sal. 3.00.
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EVERIORS 8.00. Main Thurs. Sal. 3.00.
"BY THUT RICE AND AND AND THUT!. Sal. 3.00.
"IT THE RICE AND AND SALE! MON. THUT!.

"PRINCE OF WALES. CC. 01-930 R68".
"Can' bookings 930 886! Mon. Thurs.
SOO, Fri. 2nd 931 630 And R 44.
LAST WEEKS. MUST EMD 74 SEPT.
MICHAEL BERNOOM FARCE
"If YOU don't lamb sub mb." D. EVD.
A NOTIONAL THUT! AND THE GRAY
AND AND AND THE TYPE THE THE METER.

"I YOU don't lamb sub mb." D. EVD.
A NOTIONAL THUT! AND THE WEST
MON. THE THE SET OF THE WEST
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"I WON MARY 1 SU 5 7M P.15
JULIA MCKENTIE NATURE HOTH.

"A PEDERCT MATTH FOR THE WEST
"THIS EXCELLENT CONSEDY." SPENDING

RAYMOND REVUSBAR. CC. 734 1993
At 7,00, 9,00, 11,00 pm O-13 1993
PAUL RAYMOND REVUSES
THE FESTIVAL OF EROTICA
22rd sebastional very
Fully air-conditioned.

ST. GEORGES - The Only Elizabelian 7s, Turned Park Road, NY, 607 1128. Evectoring 7.30 For a to Sat. As you have to Sat. As you like it 24-host booking service.

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SAVDY THEATRE C1.336 8868.

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SAVOY THEATRE OL-336 BEER.
CERRY COTT. 01-734 4772
LESLIE PHILLIPS. TERRY SCOTT.
JUNE WHITFIELD SYLVIA SIME in
NOT NOW DARLING.
by Ray Looney and John Chapman
Roduced orice previous wom Oct. 51.
MON.THUE BOD. Pr. and Sal. 5.45 and
8.45. Group buolings: Q1-437 385b.
SAVOY THEATRE. 01-536 8835.
SAVOY THEATRESON . one of chose
rare young lions of British Theatre. "FI.
WHOSE LIFE IS IT ANYWAY?
PLAY OF THE YEAR
by Brian Clark. "Momentous play. I
orice, you to seed it, "Gastellan.
Eves. 8. Sat 5.45 and 8.45. Red. price
Matinee Wed. 3.00. 2nd GREAT YEAR.

STRAND, 01-836 2550. Evenings 8.00.

Eves. 8. Sat \$ 45 and 8.45. Red. price
Matinee Wool. 3.00. 2nd GREAT YEAR
STRAND. 01-836 2560. Evening: 8.00.
Mat. Ther. 3.00. Sats \$ 30 and 8.30.
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BUS

YOUNG VIC. 928 3636. Today 2. Ton't. Thu. Fr.. 528. 7.30. Tmor. 7 HAMLET

ABC 1 and 2. Shaltesbury Ave. 835 8861. Sep. Per's All ser's booksbie. 1. THE DEER HUNTER (X). W. & SBR. 2.15.7 30.70 mm. Dolby Stereo. 2. PHANTASM 'X'. Wk. & Sun, 2.00. 5.30. 830. 5.30. 8.30.

CLASSIC 1, 2, 3. Navmarket i Piccaelly Classic 1, 2, 6.839 1527.

T. J. R. Tolken's THE LORD OF THE SINGS 1A), 1a Dolby stereo. Pross. 12.30. 3.05 5.40. 8.20. School, party bookings welcame. 195 Welcame, core AY THEY LAND Props. 1.25, 3.40, 5.00. THE MOVIE U. Progs. 12.16. 2.75. THE MOVIE IU. Progs. 12.16. 2.15.
5.15. 8.05

CLASSIC 2. 4. 5. Oxford St. 8.56.
03:01 core Telecolum Court Rd. side.).
1. Wood 12.50 Manattan Cant.
1. CO. 6.15.0 Manattan Cant.
2. Gulardoppicia XI. 5.0. 8.50.
3.5 EL B. 3.5 L. 5.15.
3.5 EL B. 3.5 L. 5.15.
3.6 HANGUER STREET (AL. Progs. 7.46.
4. J. R. P. Tollein's The Long of The Rings (Al. Progs. 1.00. 3.25. 5.55.
3.50 S.20 5. PORRIDGE A). TO PUSSIA WITH ELTON (U) Sep. peris, 2.00, 5.15, 8.00. CLASSIC POLY. OFFICE CHEST REPORT CHAST POLY. OF THE PROPERTY STATES OF THE PROPERTY CALL PROPERTY C 3 00 5.30 8.05 STOCKETT (AL PLOUS AND ALLER REMICHED IN THE EUROPEANER (L. PROSE STOCKET) AND ALOG SIZU. BARD. "AS near partners on a one could wisk a breat of a firm Aloxander Walters, Evening Standard.

LEICESTER COLLAGE THEATRE, 930 5352, THE CHIRAL SYNDROME (AL Sec. aross, Div. 1.15, 45.8 1.5, 3820 bible at Bay Office of the Sizuard Albert Stocket Stoc

Obson Leicester Square (930 511);
ALIEN M. Son Peris, daily doors com
12.30, 4.00, 7.30 Late Night Show every
mont, doors open 11.13 em. All sale
habie, in adv. at Box Orice or by past. OBFON MARSLE ARCH WZ 723 2011-2 MOONRAKER (A), Sep. perk. Wid. acrys ocen 1.00. 4.20. 7.45. Evening bert & Wookends bible in advance. PRINCE CHARLES, Lote, 50, 437 B181.

PRINCE CHARLES, Lote, 50, 437 B181.

Final Week, Lote, 50, 437 B181.

Final Week, Lote, 50, 437 B181.

Sep. Ports, Div. 245, 555, 8.35.

Sep. Ports, Div. 245, 556, 8.35.

World From Sept. 20.

SCIDM 137, 800 Girls Open—Sook Mow.

SCIDM 137, 800 Girls Open—Sook Mow.

STUDIO 4. Oxford Circus 437, 3500, 18, 47, 405.

7.30, Lato Show Sat. 10.45.

CLUBS

EVE has autilized the others because of a sality of fair stay and value for manay. Supper from 10-3-30 am. Disco and top-musicians, glamorous hastested, exciting soor shows. 189, Report St. 734-9687. GARGOYLE, 89 Deen Street, London, WI-NEW STRIPTEASE FLOORSHOW 11-330 am Shour with Juneau and 1 Me. Mon. Fr. Cloud Saturdays, 07-417 5415.

accounting and disclosure re- to the foreign banks in London.

5.40 News.

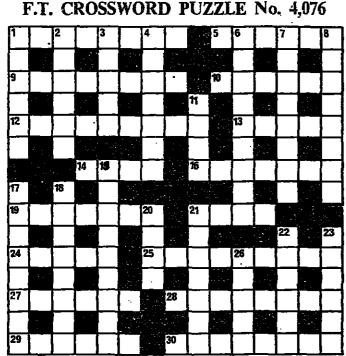
5.55 Nationwide (London and South East only). 6.20 Nationwide. Rolf Harris (London

South East only).

For Schools, Colleges. 12.45 pm News. 1.00 Pebble Mill at One. 10.20 The Bear Next Door.

10.50 Francis Albert Sinatra Does his Thing with guests Diahann Carroll, and the Fifth Dimension. 11.40 News Headlines/Regional

London). 3.55 Play School (as PBC 2 11.00 am 1 . *4.20 Champion the Wonder Horse. 4.45 Buford



ACROSS

1 Crazy dress for nearly every- 8 Depression or trouble in one in song (S)

5 A pick-me-up leaves us without stress (6)

American state (8)

Have the inclination to spread round the North (4)

may go too (S) 10 Carnival throws out number who are sensual (6) 12 Uneasy abroad (3, 2, 4) 13 Churchman is not as young

as he was (5) 14 Colonnade of philosophy (4) 16 A song indeed put off (7) 19 The tenant about one living on invested income (7) 21 Sounds an excluded poet (4)

24 Greek islander gets the Scot to church (5) 25 Fatter, like a completed application form (6, 3) 27 Mars yields its plunder (6)

28 Retreating like faulty nylon 29 First public tenure means to give satisfaction (6) 30 Main Catholic he's trying to

DOWN

I Importance of a sign in the meantime (6) 2 Indicate negative in the

river (6) 3 Entered with unminted gold?

4 Golden disc but not for pop-

singers (7) 6 Shelley met one from an

7 A time for wonder (4, 4)

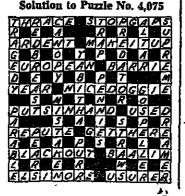
9 If their sides go down, they 15 Musical instruments for neat girls (9) a 17 Gives high praise (6) collapses (6, 2)

18 Sophocles and Anouilh wrote about her new arrangement on eating (8) 20 A bird to collar (4)

21 You need poise to settle an account (7) 22 Welcomed by trio to the bridge (6) 23 Unity in the Women's Service gives satisfaction

26 There is upset in the upper air (5) Solution to Puzzle No. 4,075

(6)



Files and Dinky Dog. 5.05 John Craven's Newsround. 5.15 Stop-- All regions as BBC 1 except at (Bristol) The Rectangular Pic

the following times: Seotland—19.38-19.58 am and 11.38-11.58 For Schools. 5.55-6.20 pm Reporting Scotland. 6.50-7.20 Rolf Harris (as London and South East), 11.40 News and Weather for Scotland.

Wales — 10.30-10.58 am I 7.20 It's a Knockout. Ysgolion. 4.45-5.05 pm Pier 8.30 Last of the Summer Wine. Maesteg. 5.55-6.20 Wales Today. 9.00 News. 6.50 Heddiw. 7.10 Ken Yn Kenya with Ken Williams, retired policeman and naturalist. 7.40-

am For Schools (Ulster in Focus). 3.53-3.55 pm Northern Ireland News. 5.55-6.20 Scene Around Six. 6.50-7.20 Hello Sun-shine. 11.40 News and Weather for Northern Ireland.

andlands Today (Birmingham); Channel is the only IBA company Points West (Bristol): South Today (Southampton): Spotlight South West (Plymouth), 6.50-7.20 Details of this local south Mark (Narwich) It's Your Today (Southampton): Spotlight the present industrial dispute. castle) North At War: North West (Manchester) North West At War: South (Southampton) All Change For . . .: South West

(S) Stereophonic broade

(S) Storeophonic broodcast

† Modium wave

5.00 am As Radio 2. 5.00 Dave Lea
Travis. 9.00 Smoon Bates. 11.21 Paul
Burnett. 2.00 pm Andy Pedelles. 4.31
Kid Jensen. 7.00 Personal Call. 8.00
Mike Read. 9.50 Newsbeat. 10.00
John Peel (S). 12.00-5.00 am As
Radio 2.

RADIO 2
5.00 am News Summary. 5.03 Tony Brandon (S). 7.32 Terry Wogan (S). 10.03 Jimmy Young (S). 12.15 pm Waggoners' Walk. 12.30 Pete Murray's Open House (S). 2.15 David Hamilton (S). 4.15 Much Mora Music (S). 5.00 News. 5.05 Waggoners' Walk. 5.20 John Dunn (S). 6.45 Sports Desk. 7.02 Brian Fahey and the BBC Scottish Radio Orchestra (S). 7.30 Folk 79 (S). 8.02 Nordring Rendezvous from Sweden (S). 9.55 Sports Desk. 10.02 The Frankle Howerd Variety Shew. 11.02 Brian Mattheyr with Round Midnight, including 12,00 News. 2.02-5.00 am You and the Night and the Music (S).

RADIO 1

RADIO 2

RADIO 3

8.30 Bonanza. 11.40 News and Weather for Wales. Northern Ireland—10.38-10.38

England—5.55-6.20 pm Look East (Norwich); Look North Midlands (Birmingham) Know Your Place: North (Leeds) What Am I Bid?; North East (New-

ture Machine. BBC 2

6.40-7.55 am Open University. 11.00 Play School. 4.50 pm Open University. Mid-even i iyews.

†7.05 The Ealing Comedy: "Passport to Pimlico," starring Stanley Holloway Hermione Baddeley and Margaret Rutherford. 8.30 Jack Dieval in London with Rhythm on 2. 9.00 Rhoda. 9.25 Man Alive: Allergies-

What's Your Poison? 10.15 James Last Live in London with his Orchestra and Chorus.

10.45 Darts: The Unipart World Team Matchplay. 11.20 Late News. 11.35 The Old Grey Whistle

CHANNEL 1.20-1.30 pm Channel Lunchtime
News, What's On Where and Weather.
5.00 Puffin's Birthday Greetings. 5.05
Clue Club. 5.30 Lost Islands.: 8.00
Report at Siz Extrs. 7.00 McMillan.
8.15 Feature Film—"A Bullet is Waiting." 9.45 Winners and Losers. 10.10
Channel Late News, Weather., 10.16
Style. 10.45 News in French.

(Plymouth) Brain Wave: West Radio Wavelengths

4 1063kHz/285m 1089kHz/275m

BBC Radio London: 1458kHz, 206m & 94,94hf Capital Radio: 1548kHz, 194m & 95.8kHz

RADIO 4

RADIO 4

6.00 am News Brioling. 6.10 Farming Todey. 6.25 Shipping forecast. 6.20 Todey, including 6.45 Preyer for the Dey. 7.00, 8.00 Todey's News, 7.30, 8.30 News Headlines, 7.45 Thought for the Day. 8.45 Diery of a Somebody. 9.00 News. 9.05 Local Time. 10.30 Deily Service. 10.45 Morning Story., 11.00 News. 10.05 Local Time. 10.30 Deily Service. 10.45 Morning Story., 11.00 Thirty-minute Theatre. 11.30 Crowdie and Cream. 11.45 Listen with Mother. 12.00 News. 12.02 pm You and Yours. 12.20 Desert Island Discs. 12.55 Weather; programme news. 1.00 The World at One. 1.40 The Archers. 1.55 Shipping forecast. 2.00 News. 2.02 Women's Hour. 3.00 News, 3.05 A Small Country Lving. 3.35 The Bostonians. 4.30 Announcements. 4.35 Story Time. 5.00 PM News magazine. 5.50 Shipping forecast. 5.55 Weather: programme news. 5.00 News. 6.30 Meny s Slip (3) 7.00 News. 7.05 The Archers. 7.20 Forty Years On. 8.05 Something Appalling. 8.45 Science New. 9.30 Koleidoscope. 9.59 Weather. 10.00 The World Tonight. 10.30 Joyce Grentell Requests the Pleasure (s). 11.00 A Book at Bedtimo. 11.15 The Financial World Tonight. 10.30 Joyce Grentell Requests the Pleasure (s). 11.00 A Book at Bedtimo. 11.15 The Financial World Tonight. 10.30 Joyce Grentell Requests the Pleasure (s). 15.00 am As Badio 2.6 30 Rush Hour.

RADIO 3

\$5.55 am Weather. 7.00 News. 7.05

News. 8.05 Concert, part 1 (S). 8.00
News. 8.05 Concert, part 2. 9.00
News. 9.05 This Weak's Composers:
Cavaili and Carissimi (S). 10.00
Reading. 11.00 Recitol, part 2. 12.00
Reading. 11.00 Recitol, part 2. 12.00
Reading. 11.00 Recitol, part 2. 12.00
Reading. 11.00 Recitol, part 1 (S). 10.55 Interval
Reading. 11.00 Recitol, part 2. 12.00
Recital, part 1 (S). 10.55 Interval
Reading. 11.00 Recitol, part 2. 12.00
Red Pior Flows Lynounov 2.50 Now
and Then (S). 3.50 Cello Sonates (S).
4.35 Elizabethen Singers (S). 4.55
Renora only from 5.45) \$5.75 At Home.
Since Califidache and the LSO Concert, part
Schumben (S). 2.00 Cello Sonated (S). 12.00 LBC Reports Midnight, 1.00 am
Night Extra. 4.00 The London Fire 5.00
Renoral Musican (S). 11.55-12.00
Rews. Sonata Radio
Reports. Ado The London Fire 5.00
Renoral Musican (S). 11.55-12.00
Revs. Sonata Radio
Red Radio 2. 6.30 Rush Hour including 5.16 London Live, 3.03
Readio 2.
London Broadcasting
Readio 2. 6.30 Rush Hour including 5.15 Holiday Scene. 10.03
Readio 2. 1.00 Pior Showcase. 4.30 London
Rews Desk. 5.35 Loof, Stop, Listen.
Readio 2. 1.00 Pior Berlah Haves
Show. 1.00 pm LBC Reports. Midnight, 1.00 am
Night Extra. 4.00 The London Fire 5.00
Recital Pain Landon Recital (S). 10.35 Caudii: 9.00 Michael Aspel (S). 10.00 pm Recent Show (S). 2.00 Michael Aspel (S). 10.00 pm Recent Show (S). 2.00 pm Recen

LEGAL NOTICES

4.45-Atlantic Connection

GHAPMAN AND ROWE Declared Defaulters 1st April 1974 Declared Defaulters 15t April 1974
DAVEY AND CANDY
Declared Defaulters 17th May 1974
TUSTAIN AND L'ESTRANGE
Declared Defaulters 3rd September 1974
All formerly tracing as Stock and Share
Brokers, The Stock Exchang, Lundon,

Brokers, The Stock Exchang, London,
EDGAR HENRIQUE & COMPANY
Declared Defaulters 9th July 1974
Formerly trading as Stock Jobbers,
Northern Stock Exchange,
TAKE NOTICE that the Official
Assignee of The Stock Exchange,
Trustee by Dead of Arrangement of the
above-named Estates, declares that the
Final Dividend to Croditors will be paid
after the expiry of this Notice.
Any person or Company who consider
they may have a claim against any of
the above-named firms, or, any partner
of those firms, and who have not completed and returned a Form of Assent
to the Deed of Arrangement, must lodge

1973 win tank divicends. Further claims should be forwarded direct to The Official Assignme, The Stock Exchange, London ECZN 1HP. **PUBLIC NOTICE**

MEMORIAL SERVICE will be held for the tate Donald Ernest Chase, Managing Director of Alias Cepco U.K. Holdings Ltd. (killed in an air crash off Nice on 3rd September), at the Mariowes Metho-dist Church, Hemel Hempstead, Herts., on Wednesday. 19th September, 1979, at 3 p.m. Funderal arrangements will be private.

NAMILTONS, 13. Carlos Piace. nr. Grosvenor Square. W1. 489 9493'4. First London Exhibition of the works of CHRISTINA RUBALCAVA. Wry and numorous paintings including the series. L'Eberna Macculin. 4th September. 1st September. 1979. OMELL GALLERIES, 60, Albemarie St., Piccadilly, Wil. New selection of fine modern French Paintings including Elanchard, Chetious, Deschamps, Delin, Clanchard, Chetious, Deschamps, Delin, Cland & Ben modern British marine paintings and waterojours. SANDFORD GALLERY, 1. Morcer Street.
Long Acre. WC2. Mon.-Set. 11-5. PaintIngs of FLOWERS & GARDENS. SCIENTURES FOR GARDENS. Including
Nicholas Dimbleby, Christopher Sanders.
RA Edwin Greetman, RP. MODELS. WILLIAMS CONTROL OF ST. WIL 499 5058. 20th CENTURY ORIGINAL PRINTS—Bradue, Ernest, Matica, Moore.

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THE ARTS

Foiano della Chiana, Italy

A Tuscan album

by WILLIAM WEAVER

or complex of shows - which half a century ago included a recently ended in Venice was dancing bear in the Corso, a an eloquent demonstration of the ciarlatano telling fortunes in immense Italian interest in the Piazza del Re. The peasants photographer's art, italy is washed the sheep, before shearreputed to have more photo- ing, in the Chiana canal; they graphy magazines than any other failed the grain with primitive country in Europe (some of the wooden implements, ploughed country in Europe (some of the publications are less than serious, envincing interest chiefly in nudity à la David Hamilton); Italian publishers tagonists, with a few peasants are beginning to bring out serious monographs on leading photographers of the past and the present; museums are buying prints for their collections, and private galleries are regularly offering shows of new work.

This interest also exists at a grass-roots level. A small-scale but fascinating show, held a short time ago in the Tuscan is a good-sized market town (population about 10,000), over-looking the Chiana Valley, famous for its chianina beef (if. RUSSIA VIVA LENIN. you have ever enjoyed a bis-

The big photography show- it. Entertainments at Foiano with wooden ploughs. Then the first farm machines arrived, and they are photographed as prostaring at them, in awe, or perhaps in dismay. The First World War touched

Foiana. Some of the farm machines were run by soldiers, while the local men were off fighting the Austrians. A plane crashed in the valley, and Del Furia went out to photograph the wreckage. A few days later. he photographed the short time ago in the Tuscan funeral. After the war, politics, town of Foiano della Chiana, is Del Furia took pictures of typical and illuminating. Foiano orators, from various parties, in

In an eerie picture, taken tecca fiorentina in Tuscany, the from an upper window of his steak was probably grown in house, Del Furia documented this area). Foiano also has an the Fascists' arrival: two open active Foto Club — most lorries are parked in the square. Italian towns and cities have crammed with squadristi. and them now — and it was this soldiers are with them. This in group that organised an exhibit 1921, before the March on of the photographs of Furio Del Rome and the establishment of



Arnolfini, Bristol

Narratives and Illustrations

by WILLIAM PACKER

very long since to sally out learn from the catalogue that under such a banner would he was at the Slade in 1963, and have been a risky business, has continued active in the art likely to call down upon anyone world ever since; but, really, remotely to do with it all sorts what can he have been doing, of smart critical fire. "Illustra- where can he have been hiding. killing epithets only yesterday, or so it seems, and we had to Who are the heroes of be pretty quick on our feet to the show? Why, David get away with a taste even of Hockney, R. B. Kitai, Eduardo ast, naturally we go along to Green, Leon Kossoff, and all the see what he means.

But it turns out that he is not, owe what little success they none too sure himself. Timothy generations"—which ing pictures with people in them these past 20 years and

more, and do so still, he forgets Or rather he neatly ducks the issue with the truism that a entire western figurative tradibe stuck with the Victorian simplification that every picture present a figure . . . caught up in some kind of story." So all we can do is wander round what enterprise, and make what we

Our frustration does not stop here, bowever, for Hyman insists upon making his oremise even shakter. His introduction heeins with these words: "The kind of painting I'm most interested in hasn't been widely seep or emphasised

Any exhibition of content over the past 20 years," to which but shoulder to shoulder on the could at least together sustain porary art so bold as to pro- the only possible response, hav-- same wall they hardly help claim itself "narrative" is ing recaptured enough breath, each other along. It is paraclaim itself "narrative" is ing recaptured enough breath, each other along. It is paranerve fails him and the chance bound to excite in us a certain is a firm raspberry. What can interest, not to say positive he mean? He includes his own works of Ken Kiff and Peter de anticipation, for it is not so work in the show, and so we Prancia, the one with paintings. and "literary" were that he can now make so misconceived a statement? the decadent Victorians, let Prologi and Michael Andrews, biographical portraiture. Camp alone the current Academy. So Does Hyman mean to tell us and Green with their autobiowhen a young critic now seeks that they, and mainters like graphical adventures, Kiff with to persuade us that it is really Francis Bacon. Howard Fode, symbolic incident and de with occupation. rest, some in his show, some The final section, which takes

> think not. His selection embraces 21 hedges artists who fall into three groups: some who achieved major reputations in the sixtles: younger painters, all fairly well represented and the largest portion of the show. Groups one and two offer us the most interesting work in general and a handful of major individual items, most notably the two paintings by Ritaj, one early, one comparatively recent, and "The Colony Room" by Michael Andrews, again a work dating from early in the period. Andrews works excessively slowly, shows only rarely, and his paintings have the pasty habit of disappearing for ever into private collections: but his reputation has stood very high all this time. He can hardly be thought a find; and to see him here is no re-examination. merely a treat. The same is true of the others: Hyman

have to his own latterday en-

The middle group is crowded out too, marginally more generously hung, but only to the extent of one large work

"Narrative Painting"

comes

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Fauré series

by RONALD CRICHTON

The Wigmore Hall's Fauré turnes, masterpieces of Fauré's series, stretching from now until middle and late periods, also in March, the programmes not exclusively but always partly devoted to the chamber music and songs, draws good audiences but a kind of emotional self-There was a big house on Sunday indulgence threatening manfor Paul Crossley's piano recital —Mr. Crossley has a following but up till quite recently I doubt if in this hall he would have planist gave an often impressive risked as much as half a pro- and highly-charged account, he gramme of Fauré. The splendid piano music is one of the bul-warks of Faure's output, yet his obstinately faithful and en-chanted British public has been slow to explore it.

Mr. Crossley, one of the most gifted and interesting of the younger British pianists, left no one in the dark about his pro-found feeling for this music. He has the measure of the size many of these pieces masqueradmany of these pieces masquerac-ing behind conventional titles ("Nocturne." "Barcarolle" and so forth—Fauré, who was un-interested in the descriptive aspect, adopted them in deferand large structures of some complexity. He has a beguiling sonority that except for one or two moments in the Valse Caprice No. 4 (a more adventurous implies) remains round and sweet, lending noble depth to the organ-like basses to which Fauré anchors his harmonic

adventures. There were, however, some heard this singer project fooddities. There is room for more keenly in larger spaces. argument about the interpretation of Fauré, usually centering round the question of rhythm— strict or not? Even those who don't believe the feeling is all there already must surely favour greater strictness than Mr. Crossley allowed bimself. At least there must be greater strictness at the beginning of a sibly made the ultra-expressive One doesn't want the mechanical strictness of pianists who type rather than play, but, as Mr. Crossley himself showed in the Third Nocturne, there is a middle way.

There were fine things in the

the Seventh some rather debilitating hesitations—nothing to do with technique or memory nerism. This was not confined to the French master. In the four Chopin Ballades, of which the dandled the line in No. 1 and moulded the innocent lullaby strain in No. 2 into something strange. The pianistic talent and the gift of musical communication in this artist are so valuable that these signs of abberation need controlling.

Ian Partridge, with Jennifer Partridge, an attentive partner at the piano, sang Schubert's Die schöue Müllerin on Saturday evening, preceded by a modest group of mostly early songs by Fauré, linking the recital with the Wigmore Hall's Fauré ence to custom and publishers) series. The Schubert cycle was sensitive, intelligent, with some delicately held phrases (in "Die moments of passing strain when the tenor's tone was less limpid than usual — to put things crudely, the higher notes sometimes tightened and went into the nose. How mysterious is the relationship between a given voice and a given hall—one has heard this singer project far

A limited supply of physical energy where it was needed, for instance in "Morgengruss," and an indoor feeling suggest-ing that this jilted lover was more likely to blow his brains out at home like Werther than to drown himself in a brook, reinforced an impression made by the Fauré group that Mr. piece — in the First and Fifth Partridge may have been Barcarolles the failure to estab-slightly indisposed. "Lydia" lish a pulse soon enough pos- (whose demanding simplicity usually puts both singers and treatment of the melodies later accompanists on their mettle). seem more extreme than it was. and "Sylvie" went well. Other One doesn't want the mechanithings were under-vitalised with good French accent but weak diction-some consonants were lost altogether. This mattered even more than usual because the French part of the agent's scruffy word sheet was



Pipi and Angiola with umbrella in their farmyard, 20 June, 1918

Furia, a local amateur, who the Regime. died in 1932.

pharmacist. The photographs of him seem to show a conventional pillar of the Italian middle-class: hair slicked down and neatly parted, rimless spectacles, brutally trimmed moustache, soher clothes. But he obviously had inquiring, unconventional mind - and an alert, tasteful eye. From about 1912 until the time of his death, he took thousands of pictures, keeping also a careful log of his work in a series of notebooks. Lost at some point after his death, his plates - over 5.000 of them were rediscovered a few years ago and bought," with the notebooks, by the municipal adminis-

tration of Foiana. Wittingly or not, Del Furia Furia's photographs (many of documented a whole era in them strikingly beautiful just ltalian life.

But, more important, Del Furia recorded the world of the village and of the farms around

Though the Government at the time denied Del Furia was the village any comprance between the Fuscists and the armed forces, there it is, in the photograph. A few days later, in the Folano the Fascists square. shooting the local resisters.

Seeing these photographs the show included about 300 of them—simply displayed in the classroom of the Foiano Elementary School is a moving experience. You look at the past, but without much nostalgia. Del Furia's peasants are not pastoral; their work is hard, constant, unrewarding. The political speakers inevitably remind the viewer that, a short time later, came a period when speech was muzzled in It was a wise purchase. Foiano, as in all Italy. Del as compositions) often have the charm of a family album, but they also have the sharp edge of

Hyman has added a rider to his selection of recent painting at the Arnolfini (until October 20) -"The Figurative Art of two his bet rather. Narrative Painting, Figurative Painting: they are not quite the same thing, some of the same vintage who And in the excitement of his are now established professionpersonal discovery that some ally but deserve wider recogniserious artists have been naint- tion; and finally a number of

to make clear the distinction. definition is difficult to establish, and going on to claim the tion, from the earliest frescoes to the great "machines" of the nineteenth century, as prece-dent. He does not really want to tells a story, and yet, he says, "The images I've loved best in every period of Western Art is, the several thousand words of introduction notwithstanding, a most iinconvincing polemical

Francia, the one with paintings. the other with drawings, that shown en bloc are able to establish any useful presence. Yet this group of artists alone, all of them in mid-career, and producing work of considerable interest and accomplishment, given the run of the entire gallery, might well have made Hyman's narrative point for him: Maggi Hambling with her

the lion's share of the space,

is the most disappointing. Set-

lightenment and patronage? I ting out to show us what is "happening among younger painters," it uses young in the lnosest possible sense, suggesting merely that the artists have risen only recently to our attention, if at all. Only Wynn Jones, with his ominously flapping, strangely distorted figures. distinguishes himself in any serious way, though Gillian Barlow's frankly illustrational work is acceptable enough, and there are a couple of good things from Andrzej Jackowski, sinister Beckmann-like interiors. For the rest, Paul Butler follows Ben Shahn as Alexander Moffat follows Kitaj, flattering to deceive, making distortion and mannerism supply their want of personal conviction; but at least their work is technically adequate. So much of the rest is as over-large as the artists ill-composed, weakly drawn and ineptly painted. The narrative element in the work would again seem to reside solely in the fact that each work contains a number of figures, all of them more or less formally related to thought to re-assess them, but one other, but ambiguously enough to make us supply our a work apiece is no basis for own little history. Something such an exercise.

Which brings us back to the question of Narrative Painting. and a few drawings or tiny among what we see here, might paintings. Maggi Hambling, well have made a particular Anthony Green and Jeffery point Kitaj and Hockney. Camp Camp all show strong things, and Green, Jones and Jackowski

of it decidely poor, some of it very good indeed, and more than worth the trip to see: very much a case of the single spy rather than the battalion. next to the ICA in London.

Seventh and Thirteenth Noc- abominably misprinted.

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Skryabin's First Symphony

On Sunday, in their opening ing the right intimately expres- Skryabin, rapturously embedded concert of the season, Riccardo sive note, even where whole in the Chopin tradition, had no a rare performance of Skryabin's First Symphony.

Written when he was 28, it is hardly a juvenile work—he had already behind him the skilful Piano Concerto and a quantity of solo piano music no less sophisticated than original—but we never hear it. It was by far his most ambitiously extended piece before 1900, delicately orchestrated as well as richly. and full of sharply personal turns; and as a whole, it doesn't work at all.

There are plenty of incidental rewards, and all praise is due material together. and still to Muti and his orchestra for their refined and glowing tenderly ambiguous melodies, work rudely exposed. Muti was sion seem to have a symphonic

Muti and the Philharmonia gave string sections are expected to conception of Austro-German phrase like a solo artist in a symphonic form, and he had private recital. There were not yet developed the crystal-flawlessly sympathetic contributions from the first flute and enable him to fill out big works clarinet, Patricia Lynden and later. But this revival was John McCaw, who revelled in eminently worth having; and all the music that recalls one looks forward to Muti per-Skryabin's Preludes. Where something more like

violent passion enters the score, the weight must be still harder to judge—there is a suggestion of cat's-paw about it even where the composer's intentions are deft hand with holding disparate achieving a luminous shimmer, Arkhipova and Robert Tear led

hyper sensitive formances of the stranger, grander Skryabin with the highest expectation. DAYID MURRAY

zoes on but we are not sure

Philharmonia plans

Christopher Bishop, Mr. newly appointed general man-ager of the Philharmonia Orchestra. says he has accepted the Philharmonia post at the suggestion of Riccardo Muti, the orchestra's principal conductor. who has signed a new contract and accepted the additional pos

There are 140 recording sessions booked, and three television pro-

epic. Here, too, Muti showed a Only the Borodinesque Scherzo

of music director. In the new season, the Philharmonia will give 115 concerts.

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account of the score. What sounded as if it wanted one remains most attractive in the more play-through yet. In the Symphony is just what is chorale Finale (an interly hardest to bring out: its felline, gratuitous, movement). Irina which presuppose a soloist's off with brave conviction, and sensibility (like Skryabin's the Philhar:nonic Chorus made own), and if blunted leave the a magnificent noise if anything awkward broad lines of the could have made that conclu-

Last year the orchestra's budmarvellously successful at find- sense, they would have done it. get showed a surplus of £20,000.

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FINANCIAL TIMES

Tuesday September 18 1979

Sweden in a maze

A COMMON phrase in the nuclear power is decided one Swedish general election cem- way or the other, paign was "Sweden at the crossroads." The results have confirmed it with a vengeance. Sweden is certainly at a political crossroads, and doesn't know where to turn. So close was the voting indeed that we shall not know for a day or two who has ectually won.

Referendum

On the face of it, there seems to have been some polarisation among the electorate. The Communists: on whom the Social Democrats would rely for a majority if they were in a position to form a government, achieved their best result for 30 years by gaining three seats. At the other end of the political spectrum the winners were the Moderates (Conservatives) who, by Swedish standards, are regarded as extreme and who now become the largest of the non-Socialist parties in Parlia-

Depending on the distribution of the postal votes, there will be either a Social Democrat Government supported by the Communists or a non-Socialist coalition of Moderates, Centrists and Liberals. Either would be lucky to have a majority of more than one, and neither would find it easy to govern. The Communists would presumably demand a price for their support. and all the more so because of their relative electoral success. while the non-Socialist parties have shown strong tendencies to quarrel among themselves.

Moreover, even if the result had been more decisive. there would still have been little letrup in the political campaigning. One of the key issues in Sweden are in many ways also the win recent years has been nuclear strongest. The other non-grower. It was removed from socialists could not govern withe election campaign by an without them, yet the Liberals the election campaign by an all-party agreement to hold a could support the Social Demo-referendum on the subject next crats. It remains to be seen March. The Centre Party did whether this kind of coalition .. March. The Centre Party did . well by stressing its opposition .. to nuclear power in the election three years ago, but was the real loser this time when the real loser this time when the Swedish people want is a mild form of social democracy. once. All other parties are to

It would be rash to conclude

from all that, however, that the prophets of doom are necessarily right and that Sweden is in for a period of crisis, if not decline. The economy has recovered remarkably well in the past two years after the nega-tive growth in the mid-1970s. Real GDP should expand by at least four per cent this year and there has been a striking increase in the volume of exports. Company profits have also been rising, admittedly from a low base. Not least, the trade union movement has re-frained from using its frained from using its undoubted power to press unrealistic wage settlements, though the real test here could come in the next few months. The economic performance suggests that the Swedish model still has a certain resilience.

Even the politics can be read in a less discouraging way than the obvious. The Social Demo crats have behaved sensibly since their election defeat last time. They have trimmed their policies slightly, concentrated more on presentation and held their ground. A large part of the electorate clearly still prefers social democracy in its Swedish form of egalitarianism plus growth. It would be even larger if the Liberals were included, as they can fairly be, as social democrats of a mild

Three year rule

The paradox is that the Liberals, as the smallest nonsocialist party in Parliament, bargaining will take place, but the election results suggest that what the bulk of the

There is one final point. some extent divided on the Sweden is doing itself no good uatter. by going to the polls every three
It looks therefore as if there years. That is one rule which will be no stability in Swedish ought to be changed whoever politics until the future of forms the new government.

Lloyd's troubles likely to lead to reforms

Lloyd's of London is likely to other matters which the in-lead to some of the most extensive reforms that this insurance market has ever seen.

Flaws in Lloyd's structure have been revealed by the celebrated Sasse affair, the "Savonita" claims row, the pos-sibility of the market's largestever losses from computer leasing insurances, the halting of dealings on five underwriting syndicates under the management of Ashby and Co., and controversies surrounding many of some of the largest approved Lloyd's insurance brokers.

When Mr. Ian Findlay, the 61-year-old chairman of Lloyd's of London, completes a two-year term of office in December he will have presided over an insurance market which is passing through a turbulent period in its history.

Many of the troubles that have come to the surface during the 21 months or so that Mr. Findlay chaired Lloyd's were developing sometime before that period. These problems have been varied but what they have revealed are breaches of Lloyd's accepted procedures might suggest that the market is in some disorder.

Lloyd's claims that the incidence of the troubles or the amounts of money at issue are not significant in a market which handles over £2bn of insurance premiums in a single year. But what is of real concern is that the troubles in Lloyd's have exposed weaknesses in what have always been accepted as the market's strength.

The principal strength of Lloyd's, which Lloyd's maintains has been responsible for its predominant position in international insurance, has been its untrammelled entrepreneurial environment. This environment has been allowed to flourish with the minimum of outside regulation from government departments or internal intervention by Lloyd's own ruling and administrative bodies.

Lloyd's has argued perhas been challenged by the

recent run of problems. political and public concern self-regulatory Lloyd's 16-strong ruling commit steady rate of growth. tee decided a year ago to look Lloyd's reputation has been complex problems such as poli-into the whole question of its further enhanced by the tical risk. internal powers.

members of the Lloyd's committee powers to supervise those a period of rapid expansion. In ing authority allows a nomin- property insurance business for to a major error of underwriting months to come.

The elm's return—

from the Orient

IDESPREAD PUBLIC who carry on insurance busi- 1969 there was a membership of concern about the ness at Claudic the ness at Cla concern about the ness at Lloyd's, the powers of around 6,000. Now there are troubles that have hit the Lloyd's committee; and any over 17,000 individuals who are As each new controversy ex-

poses fresh weaknesses in Lloyd's so the nature of the inquiry's brief has become more complex. Sasse affair whereby Lloyd's is

enforcing the principle of unlimited liability through the courts—requiring 30 members to declare that their assets are sufficient to meet their liabilities—raises a number of issues about how this problem can be handled effectively in the future.

Moreover, Lloyd's earlier handling of the Sasse affair-when the Lloyd's committee provided numerous forms of aid to the syndicate which is facing £20.2m of losses—attracted criticism that the principle of unlimited liability may have been compromised. The Fisher team is likely to study carefully the issues that the Sasse controversy has raised.

On the surface there seems little wrong with Lloyd's. From its modest beginning in a coffee house in 17th century London, Lloyd's has developed into a major international insurance and reinsurance centre.

Currency earner

It is the City of London's largest single earner of over-seas currency from invisible exports. Latest figures for 1978 show that Lloyd's overseas business underwritten in the UK contributed £362m, over a third of the total net earnings of UK insurance institutions, and over 15 per cent of the total net overseas earnings of the City.

L the contribution approved Lloyd's insurance brokers is included, the role of the Lloyd's community as an overseas earner in the City looks even more impressive. Lloyd's stresses that it is a

national asset and has become suasively that it is able to so because of the unique way regulate its own market, although it is this ability which bility in being able to take on Taking account of a growing coupled with an entrepreneurial from professional indemnity olitical and public concern spirit which has been left free and products liability to the legabout the effectiveness of its from government intervention, of actresses or footballers. It procedures, has helped Lloyd's achieve a

market's financial security For much of this year a which backs all Lloyd's policies. owes much in recent years to the seven-man working party headed The 17.279 members who have use of a variety of delegated by Sir Henry Fisher has been joined Lloyd's all accept the mechanisms. These have taking evidence from many principle of unlimited liability, allowed underwriters to build which, together with a battery munity and reviewing the of other Lloyd's funds and seas business quickly and at low constitution of Lloyd's as members' deposits, ensures that cost, established under Lloyd's Act all valid claims are settled.

Of these the "binding author Parliament and bye-laws, and In the past ten years the ority" has attracted much of Parliament and bye-laws, and In the past ten years the ority" has attracted much recognised procedures, although which gives the Lloyd's com- Lloyd's market has undergone attention and criticism. A bind- he produced fire and damage to

expansion of the membership, Lloyd's has been able to take on an increasing volume of business. During the same nore complex. period premiums handled have Recent developments in the climbed from £700m to £2bn.

BY JOHN MOORE

The latter part of this expansion has been achieved at a time when there is already excess capacity in the market; too many insurers are chasing business which has not grown at anything like the same rate as the available capacity.

Market pressures have led to corners in usual market pro-cedures being cut by both many of the Lloyd's insurance who produce insur-business for Lloyd's hrokers ance underwriters—and often the underwriters themselves. Because many underwriters have ing position of weakness, they have found the commercial pressures too compelling to investigate or inquire about the quality of the insurance business they have been receiving or check that proper market procedures have been followed. The underwriters would argue

that this should not be part of their work. Traditionally, the underwriter's function is regates his pen to an insurance duced to the area of acceptance The holder of the binding authority can underwrite business of risks and payment of claims. The brokers undertake all the

administrative function: of obtaining the business, present-ing it to underwriters, obtaining all the facts and figures, preparing the policy documentation, administering the insurance throughout its period of cover, renewing it, helping with claim settlements, and the accounting. There should be very little dup-lication of work between the broker and underwriter.

To make the market an effective and efficient operation requires a spirit of utmost good faith, which means that a full disclo-ure of information must take place between both the broker and the underwriter.

By far the largest market in Llojd's is the non-marine market. It has been developed over the last hundred years and accounts for nearly half of bility in being able to take on Lloyd's total insurance business. many kinds of insurance which The non-marine market insures could not be arranged elsewhere, every conceivable kind of risk can cover routine insurances skills. such as damage to property or

> The growth of this market up significant portfolios of over-

insurance cover on the under- to lead to a large proportion business. writer's behalf. Through the of the losses. By the time that Lloyd's use of such an arrangement an

underwriter effectively dele-

specialist, often based abroad.

for a syndicate up to certain

erally negotiated by established brokers who take a percentage

from the arising business.

Binding authorities are gen-

Ideally, binding authorities

should go to those insurance

have fallen into the hands of

The use of binding authorities has fallen into disrepute

because there has often been a

confusion of function by the

holder of the authority. A

lished underwriter. Often the

ority are so small that he can-

not provide an adequate under-

writing service. Moreover, some

binding authority holders lack

Lloyd's non-marine market

association offers a procedure

whereby all binding authority

holders can be vetted as to

An insurance specialist based in the U.S. gained a binding authority from the Sasse syndi-

cate after negotiation by the

under

brokers. authority holder never gained

Lloyd's

their suitability.

syndicate's

approval

necessary professional

broking than underwriting.

those who are more adept at

going on the authority holder had already underwritten a volume of business on behalf of values in the market - were the syndicate, much more busi- adequate. ness than the syndicate in fact expected. Nearly a third of the shortage of receipts, sales or eventual loss making insurances were underwritten during the period of a month.

The "caller" sits beneath the Lutine Bell relaying messages to brokers. The writ was issued

by Lloyd's against 30 members of the Sasse syndicate requiring them to produce a certificate

of underwriting account by September 30

these Lloyd's powers are limited. For if insurances have been issued specialists who have under in Lloyd's name then Lloyd's writing expertise but often they argues that it is bound to argues that it is bound to honour all the policies and pay up on valid claims.

Reporting weakness

duality of interest can be built at Lloyd's come down to a weak- rions that there " are many ways up whereby the binding auth- ness, in reporting procedures, of arranging contingency risks ority holder is effectively a among members of the market, and I would not swear that broker rather than an estab. The Sasse syndicate breached some of them do not impinge The Sasse syndicate breached some of them do not impinge its premium limits, which are into" the area of financial business operations of the per-carefully related to the amount son holding the binding auth- of capital that backs the syndicate, accepting during one underwriting year £10m of if not the letter of the financial premium against a limit of £4m, guarantee ruling, does not seem And one of the Ashby syndi- to have been considered. cates experienced problems But when troubles occur result of its involvement with binding authority business.

But if there are weaknesses in the reporting procedures of the members of the 14024 s community then there is also market weakness in the nowers of Lloyd's itself has recognised that appeals to the membership to adopt a responsible attitude the market are not Computer leasing insurance

Lloyd's history, was largely due

ated third party to grant the Sasse syndicate which was judgment on a new class of

ELICABETH THE SECOND, by El

And yet the question must be asked whether Lloyd's own gained any idea of what was internal checks on the leasing business-which was eventually to represent \$1bn of insured

Lloyd's does not insure the profits of any venture, or the financial failure of any venture onth. which protects the insured circumstances against financial default or insolvency under its financial guarantee rules. But of the early termination of computer leases for computer leasing companies have been regarded as accentable because they insure a recognised contingency, namely the early termination of the lease.

Mr. Findlay recently told the Wilson Committee reviewing the Essentially, all the problems functioning of financial instituguarantee insurance. The question of whether computer leasing insurances broke the spirit,

> 1871 and 1911 are out of date and largely irrelevant to dealing with contemporary dis-

enough. This is why we are business, which is likely to produce the largest losses in gramme of reform in its selfregulatory procedures in the

-The looming energy gap

THE GLOOMY tone of the Government estimates of International Monetary Fund's Britain's offshore resources annual report on the subject of show that the total amount of oil price increases serves to oil that might be ultimately underline Britain's apparent recovered could be between good fortune in being a 2.4bn and 4.4bn tonnes. Last significant oil producer in its own right. The country's to 4.5bn tonnes and it is quite monthly deficit on oil trade possible there will be another dropped to £70m during the downward revision before next January-July period compared summer. with £163m during the corresponding seven months of last to the conclusion that there year. That deficit will evaporate could be a sizeable gap between allogether as the UK moves into energy supply and demand opening up within the next two its enviable state of energy self-opening up within the next two sufficiency sometime during the decades, a gap as wide as 105m next year.

Conservation

The main concern now is whether Britain can take advantage of its privileged position to strengthen its industrial base, to push ahead with alternative energy schemes and to implement conservation measures of lasting benefit. There is not a great deal of time in which to take the necessary action. The latest ment of Energy indicate that the country's return to a position of net energy importer may come more rapidly than previously envisaged.

of Belvoir coal mines public estimates that by the year 2000 inquiry the Department warns UK energy demand could be in that by the 1990s domestic oil production will be in decline. Natural gas production might is some 5m to 45m tonnes less begin to slip a few years later. than the forecast contained in At the same time the alternalist year's "Green Book" on tives, like coal and nuclear UK energy policy. power, are not being developed fast enough.

Revision

The urgency of the National Coal Board's "Plan for Coal" development programme is underlined by the fact that without early and continuing investment in new production, colliery output in 1990 would be lower than it is today, perhaps falling to around 80m tonnes annually before the end of the century (compared with around 120m tonnes at present). Given the necessary development boost the Coal Board is hopeful of attaining an output of around 170m tonnes per annum by the turn of the century.

But the development of coal fields. like that of nuclear dealt with the more immediate plants, involves long lead times task of boosting North Sea oil decade of planning and con- more organcy into the longerworse Britain's oil resources tive energy sources and may not last as long as once encouraging an even greater thought. The latest published conservation effort.

possible there will be another All this leads the Department

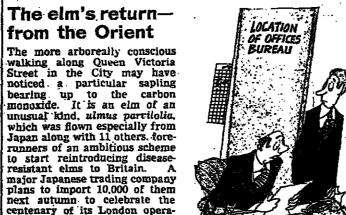
tonnes of coal equivalent by the year 2000. Assuming, for simplicity sake, that the gap was to be filled with coal at to-day's prices the burden on the country's import bill would be well over £2.5bn. In reality the cost would be far higher for much of the gap would have to be filled with imported crude oil and all the signs are that OPEC will make sure that the cost of this fuel will rise in real terms over the coming

Lower demand

Conservation will help, of course, but the Energy Departpreviously envisaged. ment has already taken account
In its submission to the Vale of this in its latest forecast. It UK energy demand could be in the range of 445m to 515m tonnes of coal equivalent. This

> However, while the Government sees a lower level of demand than hitherto-a reflection in part of more modest economic growth-it foresees an even bigger drop in the amount of indigenous production. Last year the Energy Department could see the UK producing between 475m and 515m tonnes of coal equivalent by the end of the century. The Vale of Belvoir Inquiry will be told that it now sees domestic supplies being in the range of only 385m to 410m tonnes of coal equiva-

The warning implicit in these figures must be taken seriously everyone concerned; the Government, consumers, producers and environmentalists. The Government has largely in some cases as much as a exploration. Now it must inject To make matters term task of developing alterna-



It's from Michael Heseltine

"We wanted to make a permanent contribution to the host country rather than have the usual cocktail party junket," says Wynne Pearce, an execu tive of the company.c Even though the scheme has been cloaked in secrecy, the demand for a share of the trees by local nary. "We could happily accommodate at least three times as many trees. If we had adver-tised, it would be unlimited. Because of the cuts, there are council workforces sitting around with nothing to do."

The bulk of the elms will come by ship from Canada, where a great deal of research has been done into Dutch elm disease, and it is believed that Asiatic elms are immune. The remaining 3,000 will be flown

in-the-wood traditionalists who shops throughout France (and feel that any nonEnglish elm should be arbor non grata (or should it be non gratus?) but in general the response has been very enthusiastic, even though it in Paris has filled its windows statistically unsound. Doll, it has not yet been proved that the on the Boulevard Haussmann will be remembered, was the Asiatic elm will keep its immunity in a British habitat. "The proof of the pudding is in the eating," says the Forestry Cominmission cautionsly. However there are, it seems, Asiatic elms in Islington which have so far Survived the disease. (one of the Pearce, who has been organic counties).

telling us where to go." ing the £100,000 scheme with a Japanese colleague, is particu-larly delighted by a letter from the district council in Gillingham, Kent. It seems there is a authorities and other public inmemorial there to a lefth century by new governments in 1970-71
stitutions has been extraordisallor called William Adams and 1974 after approximately who, while on board a Portuguese ship, found himself is the "going gestation period."
washed up on the Japanese
coast, where he later founded why all those Treasury experts the Japanese navy. He was known in Japan as Miura Anjin. "We're going to plant trees round his memorial;" says Pearce.

Rustic vogue

The more the French hear about Britain's economic woes, from Japan, where the disease is the more indulgent they become long-serving workers in nuclear unknown.

The scheme, curiously, met life "across the Channel. The cancer than the national with some resistance from dyed. Au Printemps group, with 33 average. one in Andorra) tomorrow launches a month-long British exhibition.

The group's "flagship" store with British cottage fronts, man who established the link lawns, privet hedges and flower-beds. Within the "men's cot-cancer. beds. Within the "men's cot-tage" shows "une mode tres gentleman farmer." Another rustic scene is declared to be conference in Doublesy, the "like those of Stratfordshire" assembled journalists views (one of the lesser-known English

smarter commuter villages reactor. In London, newspaper might care to copy: a tea-cosy industry employees suffer 32 which matches the bed cover. per cent more deaths from lung The nearby British embassy, maintaining Sir Nico Hender-son's fine tradition of commer-Manchester the figure is 41 per cial enterprise, has also laid on Lambeth's town crier, five policemen and 30 bagpipers.

Bird's flight

The competition to dream up new economic theories and toss off insouciant forecasts seems to Buying goodwill grow ever more bectic among the authors of stockbrokers' newsletters. The latest prize must surely go to one Tony Bird, writing about the options market for W. L Carr.

He declares that the British Government will make an eco-nomic U-turn in the spring of next year. This pronouncement is based on the claim that changes of course were made nine months. That, says Bird, why all those Treasury experts are wasting their time.

Home truths

As nuclear industry leaders see it, some newspapers have given them a very hard time over the Mancuso Report. This U.S. study purports to demonstrate that

A first reaction came from top epidemiologists such as Professor Sir Richard Doll, the Warden of Green College, rejecting the Mancuso findings as man who established the link

also striking back. At a Press treated to some of cirt statistics by Cliff Blutafield, director in

One cottage has an idea the charge of Britain's fast breeder cancer or bronchial cancer than

Before rushing to open the window and take a deep breath of sparkling Cannon Street air I should like to speculate that the cause is noxious gases given off by overheated typewriters.

If and when the Zimbabwe Rhodesia question finds a solution, one of Julius Nverere's suggestions at the Commonwealth Conference may help to calm any still-ruffled sensibili-ties. The Tanzanian president feels it might be helpful for the Commonwealth to buy out nervous white farmers in Rhodesia, as was done after Kenyan independence.

I learn that the Kenya Land Transfer Programme, as it was called, has only just come to an end, 16 years after independence. At a cost to Britain of a mere £33m, involving the buying up of 3.5m acres of land, more than 500,000 land-hungry Africans were resettled. The late Jomo Kenyatta said the scheme was largely responsible for the smooth handover of power in Kenya, and laid the foundations for good relation with Britain ever since, a ... with which Whitehall appear agree.

Just 25 white farmer Kenya have resisted gove blandishments. Of the rewho could take their sale anywhere they wanted ironically, moved to rather more to Rhodesia

Blue streak

Now the nuclear industry is window: "For sale, grey Af. parrot. Profuse talker. Sui for fishwife or deaf person."

Uiserie.



مكذا سَ الدّ ص

FINANCIAL TIMES SURVEY

Tuesday September 18 1979

Telecommunications

Telecommunications is widely regarded as one of the key industries of the next two decades. Improvements in technology have led to spectacular growth in recent years, and a similar rate of growth can be expected in the foreseeable future. The main problem will be to compensate by increased manufacturing capacity for the loss of jobs caused by technological development.

Industry the future

By John Lloyd

ELECTRONICS HAS been seen as the key industry of the late 20th-21st century for a decade: within it, telecommunications is at once the largest market and the key strategic sector. It is It is growing rapidly—world rates of growth are forecast at around 10 per cent into the 1980s, the size of the market leaping from over \$30bn now to over \$65bn in 1987. It is changing rapidly—the marriage of the computer and the telephone exchange has produced wholly sew type of system. It is greatly widening its scope telecommunications networks national

telex messages. Finally, it has become a crucial part of the industrial/social infrastructure of an advanced society, the loss of which would halt industry, commerce and distribution.

The growth curve in telephone use has been getting progres-sively steeper since the last war, vith North America and ther Europe providing the bulk of that growth; the numbers have been almost doubling since 1945, and are forecast to continue to do so until 1990. The rate of growth in the U.S. will slow slightly, though it will remain the largest market until the early 1980s: But Europe will grow at around 14 per cent Asia is forecast to take off strongly in the early 1980s, Latin America to show stronger growth by the mid-1980s, while Africa and the Pacific countries will turn up slightly (from a low base) in the next decade

It is not surprising that high growth rates are a function of course: but both because tele-phone systems are international in their links, and because the business is itself increasingly international in its interests (even the mighty American Telephone and Telegraph moved ponderously into the export markets), the developing countries have a strong voice simple and the sophisticated. in the industry. All countries are represented on the Inter-—telecommunications networks national Telecommunications with fewer than 10 telephones now handle or will soon handle Union: many on Intelect, which per 100 population, is one where ever-increasing amounts of regulates satellite transmissions: much of the work to be done is data, cable TV, electronic mail, all are objects of the attention basic laying of major trunk netviewdata services — as well as of manufacturers, if not for pre-works, establishment of large of Holland will be more modern municathe conventional telephone and sent orders (which may be and small exchanges for the first than most in the U.S. and in major

		\$hn_	G	Annua Fowth 1 1977-8	Rat
	1977		1987	್ಯ	
Switching Transmissions and local		14.8	21.4	7.7	
distribution	10.9	16.1	23.4	8.I	
distribution Terminals	3.1		5.9		
Mobile radios	2.3	2.4	5.0	8.1	
Private systems	2.7	4.6	7.1	16.2	
Others	1.2	1.9	2.5	7.6	
	30.4	45.1	65.3	7.9	
North America	14.2	19.2	25.9	. 6.2	
Developed European countries	6.2	10.0	16.1	10.1	
Developed Pacific countries	2.4	3.2	4.3	6.1	
Middle East	3.6	6.5	10.0	10.8	
Other developing countries	4.0	6.2	9.0	8.5	
Total	30.4	45.1	65.3		

which will certainly be bigger. excite exporters: China is also thought to hold out possibilities. Africa and Latin America are less exciting but are the arenas for fierce competition for all

In one sense, there are two markets in telecommunications The "simple market"-broadly made up of developing countries,

ment of a technical and managerial system which can cope with future change. The "sophis-ticated market," made up of countries with more than 10 telephones per 100 population, in part concerned with relacement of electro-mechanical networks with electronic ones, and in part with the introduction of a new range of office communications equipment and with new domestic devices as well. .

course, so easily separableespecially when one considers suited to the transmission of that the system now being data (which is already installed in Saudi Arabia by digitised), and which represents Evicsson of Sweden and Philips an increasing share of telecom-of Holland will be more modern munications traffic. Most of the

Western Europe when it is manfacturers in the world are freedom of choice and the evils operational. Building up a now bringing out, or have of monopoly power; the PTT/ has the advantage of being able to adopt the most up-to-date lectronic technology available, without the need to scrap large amounts of electromechanical the country concerned is wealthy enough to make the ap into the electronic age in the first place. However, it remains the case that the work now to be done in Third World countries is one of laying the foundations, while that to be ne in advanced countries is extensive renovation coupled with thorough modernisation.

The technology which has most affected telecommunications in the past two decades has been the computer, which first allowed the control of the exchange to be computerised and now. with the advent of the microprocessor and the micro-computer, allows the electronic exchanges to offer an enormous range of facilities which are themselves computer-controlled -by computers on a chip. At the same time, this technology offers the possibility of digita telephony—that is, sending the voice messages in pulse codes, which are reassembled into speech patterns at the receiving end and which are at once more rapid and of higher quality than the standard method of transmission, known as analogue. telecommunications is also, of course, much more (which

electronic systems both for their domestic and for their export in concert with its main suppliers GEC, Plessey and STC. five years on "System X," an all-electronic, digital system, to be unveiled this month in the Geneva Telcom 79 exhibition, which takes place under the auspices of the ITU. Other companies—as Ericsson, CIT-Alcatel and W Electric-have digital systems on the market and are already

making sales. As the developing countries seek to climb on to the band-wagon of high telephone growth, in all cases using the state as the engine of investment and of development (or joint development with foreign companies), so in the advanced countries there is increasing pressure for deregulation, and for a relaxation in the state or private monopoly. The forces spearheading the anti-monopoly as the UK Post Office has shown tions companies, who are looking for larger markets and higher profits: opposing them are (usually) the PTTs or private monopolies, ments (in some cases) and trade unions. This taking of sides on the issue of deregulation, or "interconnect" as it became known in the U.S., is a major feature of the telecommunications scene of our times and one Both sides use large, moral-through viewdata and the other philosophical concepts to justify new techniques now in develop-their positions: the interconnect ment. By the 1990s, most PTT telecommunications lobby runs a strong line in the planners believe that postal technology brings with it.

public service, the importance of planning and the need to maintain both standards and personal and national security. While the logic of commerce and power underlies these elevating debates, they do carry some weight in the political sphere, which is one in which telecommunications finds that it is increasingly required to perate both as an industry and

What are the consequences of this growth, first for the tradi-tional methods of carrying messages, the postal services and, second, for the workers in telecommunications service and manufacture? In the first instance, postal

services are profoundly affected by the growth of telephone use, simple as the growth of one meaning the decline of the other. Posts can grow at the same time (though scarcely at the same rate) as telephone use, over the past two years. The the growth of " iunk " mail, unwelcome number of utilities' and other

increasing postai services. Yet, although it seems posts can cope with the growth when faced with elec-tronic mail, telemetry (remote meter 'reading), direct order

> **GEC Telecommunications Limited** The Plessey Company Limited

Pye TMC Limited

Standard Telephones and Cables Limited British Telecommunications Systems Limited Marconi Communication Systems Limited

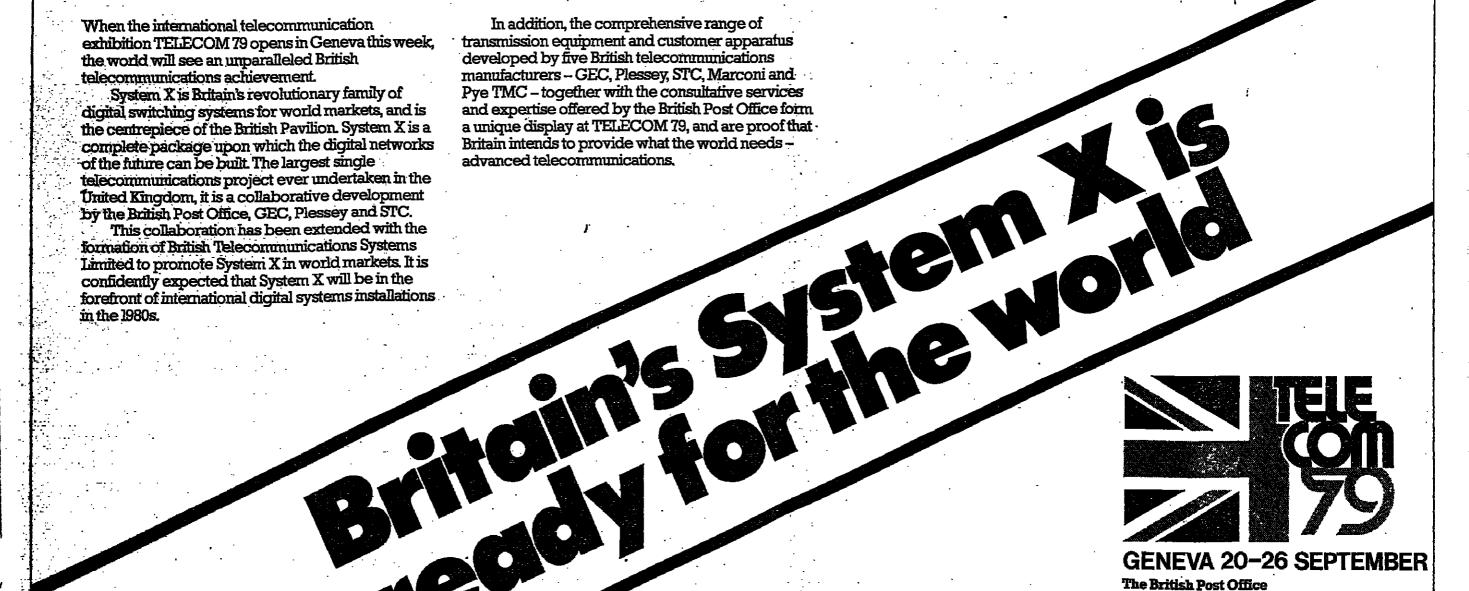
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services throughout the world

cal production by electronic and worldwide - though the service telephone, it is unlikely that engineers tend to have indifference in the industry is "solvable" only by strong ment terms, for the large rise in productivity which the new



Controversy over PO's monopoly

THE SUPPLY of a telecom- Office Engineering Union which ever, more prone to breakdown carries a great deal on its back other equipment are also promunications service throughout only came to an end last than electronic equipment,—primarily, the hopes and fears filed elsewhere in this Survey: in 1982—brought forward. At the UK is, broadly, a Post Office autumn, has meant a large back-requires more maintenance, of the UK telecommunications it should be said here, however, the same time, it has recently monopoly a state of affairs log of orders which was being takes up more space and is monopoly, a state of affairs log of orders which was being takes up more space and is which has been accepted very reduced only to go up again as slower and less flexible. In largely without question since one of the side effects of the short, it has to go. The Post 1969, when the Post Office Act corporation's computer opera- Office attempted to leap from established the corporation. tors' strike, recently settled. Strowger to fully electronic in Earlier this month Sir Keith Telecommunications has a target the early-mid 1960s, and failed: Earlier this month Sir Keith

Joseph, the Industry Secretary, ended that state of affairs when he first announced that the corporation was to be split in two parts—one corporation for posts and National Girobank, one for telecommunications—and second, that he wanted to liberalise the telecommunications monopoly to allow manufacturers to sell their products direct to customers. The split will take some the payment of a for cent return on net since then, it has seen the lead spect to pass to other countries.

The exchanges which are now replacing Strowger and crossbar that two years since agreeing the target. The computer of the com tomers. The split will take some markets and lost it an estimated 18 months to achieve legislative £90m of profit—profits may well form: liberalisation may take as be significantly down.

That review will certainly not show that the Post Office's telecommunications business is un-profitable: for the past four profit and over the past finan-profit, and over the past finan-past finan-largely on Strowger electrocial year notched up a surplus mechanical equipment to make of £347m, up more than 6 per the connections for its 19bn cent on the previous year. calls in a year. Strowger equip-Growth in profits was more than ment, developed decades ago. is matched by growth in demand— both sturdy and reliable, and indeed, the level of demand, regarded by the older genera-coupled with a long series of tion of Post Office engineers industrial actions by the Post with much affection. It is, how- separate article in this survey-

much as a year, and the form it takes will be dependent on a review of telecommunications telecommunications business. So

subsidiary of the U.S. based multinational, ITT). TXE4 is a largely electronic, analogue system, a stage of the technology which has been over-taken both by fully electronic analogue systems and even more by digital systems. Still, only eight TXE4 exchanges are currently in service and 280 are still on order from the major suppliers, awaiting installation in the 1980s. Thus the Post Office will actually be buying, for the most part, a semi-elec-tronic analogue system at the same time as its digital System X tries to find its feet on world markets.

System X-the subject of a

industry. A recent survey by that their joint co-operation on set in hand a major upheaval stockbrokers Laurie Millbank of the UK electronics sector was fears that effective collaboration the telecommunications busi-downbeat about System X: might not be possible. To a upheaval consciously "Whilst the development of considerable extent, these fears that effective collaboration the telecommunications busi-might not be possible. To a undertaken with the model of System X represents a belated have been guietened (or are at the Bell (AT and T) restructuration in mind. The net effect of question therefore remains as to what export potential System X will have when it is finally realised and how the marketing of the equipment will be undertaken. The importance of achieving a significant volume of exports with System X can hardly be understated and we believe it is fair to say that the very survival of the UK tele-communications industry de-pends on System X. In fact, the National Economic Development Council has stated that if the UK does not achieve a position as a major exporter this time round it will probably never be possible." (My italics.) With such stakes, and with the cur-rent level of competition, it is perhaps easy to be pessimistic: but the System is already mak-

ing its future competitors slance over their shoulders, and it remains true that the world's telecommunications markets are

attempt to catch up with the least no longer so often exmost modern technology, there pressed). Much of the tension the changes—which are still most modern technology, there pressed). Much of the tension the changes—which are still is a real threat that this will be centred round the position of proceeding—are that marketing "overdesigned" (and over- STC which, as a subsidiary of and product development are "overdesigned" (and over-priced) for export markets. The litt which is itself developing very much in command, and question therefore remains as (and will shortly market) a while technical standards are to digital system—System 12— might be thought to be open to pulls from two directions, have particular emphasis will be received entities in the preceived entities in the placed on office communication. for not pulling away from what has been feit to be an over-cosy fied—in common with other relationship with the Post authorities and large communications companies—as the telecommunications exports dropped from a 25 per cent share of world markets in 1963 to under 6 per cent in 1975. The manufacturers defend themselves by saying they were hound by Post Office specifications and ordering patterns. Both sides have a point, but the net effect has been relative decline and a situation at present which is seen as being one of "last chance."

The corporation has not been insensitive to charges that it lacks sufficient marketing and skilled engineers on which it entrepreneurial flair for its own, can call, and has traditionally entrepreneurial flair for its own, the manufacturers' and the country's good. The System X project has been pushed along rather faster in the past two or both make and sell this and the manufacturers who must both make and sell this and the manufacturers who must be compared to the use of the first exchanges and the new situation with the sume time, the same time,

received criticism in the past placed on office communications. which the corporation has identiexports area offering much the greatest growth. The business seems. determined to show that it can compete in the market place as well as any private company.

> Following Sir Keith's announcement earlier this month, do so. It has considerable ad-vantages: it will remain in control of the trunk network, and as System X develops none will know better than the Post Office it. It has thousands of highly

TELECOM

TELECOM 79. the international exhibition of felecommunications systems held in Geneva from 19 to 26 September, is probably the largest of its kind ever staged, displaying what Sir William Barlow, the Post Office chairman, has described as "arguably the world's biggest and most significant invest-

and most significant investment in any single sphere of engineering and science."

There will be major exhibitions by the U.S., Japan, France, West Germany, Italy and Canada, each of which has been alotted a "national day" in which the focus of the exhibition will turn to the exhibition will turn to their products. At the same time, two symposia will run, one in each half of the exhibi-tion: while the World Administrative Radio Conference will begin its expected ten-week course, in which the sharing out of the world's airwaves should be

decided. The exhibition is highly significant for the UK, for two reasons. First, it will be the first demonstration of System X, and enormous interest can be expected to be shown in this much heralded system especially from the competi-

Second, the UK telecommunications industry will appear, for the first time, as a unified body, sharing a common stand designed to display UK thinking on telecommunications, pooling the resources of the Post Office, the three major companies-GEC, Piessey and STC, together with two smaller companies, Mar-coni and Pye TMC.

The export capability for System X has already been unified, under the rubric of British Telecommunications Systems and the directorship of Mr. John Sharpley.

This collusion among companies which were accus-tomed to herce competition has been arrived at by neces-sity; under the awareness of the fact that other countries -Japan, France, even the

U.S.—were presenting united faces in world markets, and that to fail to do so meant lost orders.

Sir William Barlow, in characteristically optimistic mood, says of the venture—"we are projecting a united front to show the world that Britain intends to resume its Britain intends to resume its leading position in the arena of world competition for teleeommunications markets." He had better be right.

it is certain that it will have to mixed feelings. Clearly, the fiercest companies in the world. market feels that they will benefit, since electronics companies' share prices have been happy position of retaining a going up on rumours of the announcement. It is certainly what attachments will best suit the case that they will have an expanded market in which to operate, and for which they can tailor their products.

The Western European companies at least will be in the relatively protected home market and gaining access to a free one. Many international com-panies now offer products which UK companies do not, or offer only less-advanced equivalents.

Modernising in Europe

THE GENEVA Telcomm 79 ex- gesture had on the Egyptians, tric (the Bell manufacturing hibition, which opens under ITU there is certainly talk of the arm), ITT and Ericsson. Besides auspices this week, will not monster contract being split up merely be a timely demonstra-tion of the state of the telecommunications market worldwide, cess of the French has been a large pool of engineers from but will also be a particularly that both companies are now which to draw for its projects. interesting forum for a com- offering digital systems, and For the moment, the EWS parison of developments in the CIT Alcatel has done so for system is untested, and its leading European countries— some years. It does not always efficiency must be taken on trust. West Germany, France, the UK help to start first in this race: If it does emerge as living up to and Italy. It is of course the but on balance, being first is its case that two of the leading—still probably an advantage, and though, then Siemens will be indeed arguably the two leading the companies have orders not very well placed indeed to

and Ericsson sweden—but of interest like is not just manufacturing, but the EIO (CIT Alcate) and the way in which the PTTS MT (Thomson CSF): both are being ordered for the expanding being ordered, but both must companies. We are thus instantial home markets: the UK is excepted here since it is dealt with at greater length.

From occupying the position of being the joke of Europe when it came to making telephone calls. France has initiated, with some success, a programme of extensive and rapid modernisation at home coupled with aggressive exporting overseas, The French PTT has publicly stated its expansion aims: these are-to increase the current number of 12m lines by around 2m lines a year tit grew by 1.95m last year) and to get telephone density up from its present level of 22.3 telephones per 100 citizens (compared with 29 per 100 in the UK) to double 20m lines. A large proportion of the new lines will be elec-Im. and that total is expected to rise to 2.7m by 1982. As part of the PTI's expansion plans, particular emphasis has been placed on upgrading rural into a digital system, expected services, with a FFr 1.2hn in- to be on world markets in the vestment in the Pay de Loire departments.

Flurry

This domestic movement is paralleled by a great flurry of activity in overseas markets, electronic components, scrapped where French telecommunica- them, and started again. These tions salesmen are becoming as tests were carried on in parallel pervasive an ethnic trade as with the development of an elec-Persian carpet sellers or Scotch tronic analogue system, much of whisky salesmen. The two major which has recently been abantelecommunications companies, doned in favour of the digital CIT Alcatel and Thomson CSF, one. Local analogue exchanges acting in impressive unison with the French PTT and Government, are opening doors precharge in a bid to break into other companies had assumed and is ranked fourth in the was sown up by the U.S. While world league of numbers of lines it is not certain what effect the installed—after Western Elec-

—telecommunications com-panies in Europe are based in Caribbean, but a £100m con-smaller countries—Philips in tract from the Soviet Union as

turing strategies of the leading find export markets if production-and employment-are to time, the French PTT is planattention to itself in the past and will shortly be letting con-

> munications equipment in the Federal Republic: the aim is the phone penetration to 100 per cent in 1985.

that Siemens, thought to have been lagging the field in the introduction of digitial electronic switching, has carefully brought on plans for moving early 1980s, a little before the UK System X. The company has been working on a system for most of the 1970s, but in 1977 was forced to admit that its plans had been rendered obso-lescent by the advances in microwill, however, continue in production for some time to come.

The digital EWS system is, viously shut to western manu-like the Ericsson AXE and factures, capitalising on their System X, highly decentralised connections with Francophone and thus composed of a complex African and Caribbean states of interfacing programmes. It is and making highly sophisticated in this area where much of the entrees into the U.S. markets. debugging has had to be done: in this area where much of the A recent example of their flair according to Siemens executives. is the initiative taken by CIT that process has been largely Alcatel when, earlier this year, successful, and the company is the company flew in an exconfident it has a world beater,
change to Alexandria, in The company is already a major
Egypt, and installed it free of exporter of conventional exreak into changes and of telex systems

[lucrative (for which it is famous): it thus Egyptian market-which most has its foot in many markets,

traditional creators' expectations benefit from the world boom in telecommunications expected to last throughout the 1980s at in well to prove the point:
least, and its system will provide
least, and its system will provide
but the EIO (CIT Alcatel) and the
but the EIO (CIT Alcatel) and the
least, and its system will provide
and the British.

Italy, with a less well-developed home market and terested in countries with sub- he kept at present levels in the with substantial foreign ownercompanies' plants. At the same ship of its telecommunications manufacturing plant, is less ith at greater length.

ning to put a teletext terminal well represented on the interFrance has attracted most in every home over the 1980s, national scene than its three other European partners. The four or five years, which has tracts for the production of major grouping in manufactur-been precisely its intention. 10,000 units a month. It is clear ing is the SIT-Siemens company, that the French no longer wish which in spite of its name has to be considered the had tele-phone joke of the continent. no longer any German connec-tions, being nationalised after phone joke of the continent.

In West Germany, the Bundesthe war. It accounts for account post has a five-year DM 25bn half of the lines installed in land, Italy: the other half is taken up foreign subsidiaries on the companies, of which by General Telephone and Elec-far the dominant one is Siemens tronics of the U.S., FACE, an (though the ITT subsidiary, ITT subsidiary, also of the U.S., Standard Elektrik Lorenz is also and FATME, an Ericsson of significant). Post Office pur-Sweden subsidiary. There are chases account for 80 per cent some 11m lines in Italy, not of the spending on telecommany fewer than in France; but munications equipment in the the expansion programme is, at 600,000 lines a year, less than ambitious one of raising the one third of the French pro-current 60 per cent rate of teledomestic manufacturer, SIT Siemens, is badly placed to open It has recently become clear up an attack on export markets. as it is being encouraged to do by the Government.

In most ways, the three subsidiaries, with access to their parents' digital electronic technologies, are much better placed in theory at least, to export-though the parent companies may not wish to use the Italian plants as export bases. FATME is to a large extent an exception to this: Ericsson has made the plant its major pro-ducer for computers for its AXE range, and it exports all over the world. For the moment, however, the Italian PTT has not come down on the side of SIT-Siemens, or of the multinationals, in developing an export strategy. It seems likely that SIT-Siemens will develop its own digital system for the 1980s, but it will have to do very well indeed to take a reasonable share of export markets. Telettra, an electronic subsidiary of Fiat with considerable computer expertise, might have been expected to aid the State company, but it appears to have drawn closer to GTE and has signed a technical agreement with the ES subsidiary. As is customary in this context, any decisions which the Government may take will affect employment patterns, an area which is at least as heavily mined politically in Italy as elsewhere in Europe,

STC makes

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U.S. groups jockey for power

THE U.S. market for telecom- made by Arthur D. Little, the Office). Like Bell, GTE also has munications is the largest and U.S. consultants. A. D. Little must sophisticated in the world. By common consent, the Bell U.S. telecommunications market strong in consumer electronics operating system is both highly to have been \$14bn, and see it and industrial electronics as efficient and flexible, while growing to around \$260n in well as telecommunications. The the manufacturing companies 1987. The proportion of the third operating company of size are often world leaders. The world market will, however, telephone density — at around shrink from 47 per cent in 1977 140 telephones to 100 house to 40 per cent in 1987. The holds, according to a recent consultants believe that it will estimate — is by far the remain the largest market in highest in the world. The the world, with Western Europe pervasiveness and importance —whose size is also seen as of an advanced communications network in U.S. industrial and social life has contributed to theories, largely generated in by the late 1980s). A. D. Little theories, largely generated in the U.S., that we are moving into an "information society," a "post industrial society" or the "technotronic age." where information handling and transmission is as crucial an element as the provision of steel or chemicals to the maintenance of Larget

Does that not say it all? Is it not possible to award the accolade of success and draw a curtain on a trouble-free world? Of course, it is not indeed, in the current period. U.S. tele-communications are going through a highly disturbing the industry are jockeying for power, and in which the verities which have tended to rule in the communications scene are very much in question. Some of the problems, indeed, stem from the very success and high growth described above: like its noliticians two decades ago, U.S. telecommunications companies are looking for new frontiers: indeed, must conquer them if they are to avoid a possibly damaging cutback in their industries.

First, some facts-these par-

estimates the 1977 size of the believes that the numbers of telephones in service Western Europe will surpass those in service in North America (including Canada) by

For most Americans, the provision of a telephone is courtesy of the Bell network, formally the American Telephone and Telegraph company, the largest telephone company in the world and one of the five largest series of events in which the companies in the world. It is major groups which make up an operating company for an operating company for around 80 per cent of all U.S. citizens, and also has a huge manufacturing arm, Western Electric Bell's massive presence is, of course, regulated—though that regulation, as we shall see later, has been progressively changed over the past decade, and Bell's grip on the U.S. tele-communications scene weakened somewhat. The second company -a long way second—is General

a manufacturing arm, Automatic Electric: unlike Bell, GTE is is Continental, currently undertaking a crash modernisation programme. In the manufacture of tele-

communications equipment of all kinds, both Western Electric

and Automatic Electric are, of

course, strong, while others, like ITT, RCA, Wescom, Stromberg Carlson, TRW and the Canadian company Northern Telecom compete for the rich business systems market, which has the highest estimated growth rate at over 10 per cent. At the same time, the thrusting semiconductor companies are now beginning to look to the telecommunications markets, telecommunications not simply as clients for their chips but as a sector in which they can market packages. moving up from the smallest components into the marketing of systems, blurring the edges between components suppliers and manufacturers. Again, the convergence between the computer and the telephone has meant that IBM, with its massive command of 60 per cent of the world's computer market, is beginning to feel its way into communications. especially in business systems. The competition is the fiercer because the new technology has exploded the old demarcation lines: for the moment, the market shows no signs of settling down.

While the main market for Telephone and Electronic, these companies remains the Europe, they are deterred by moment suspended. Western which administers to the tele-U.S., all have noted that rates the strong presence of the Electric in a consortium with a phone needs of 3 per cent of growth elsewhere, especially European countries, which number of UK companies, hid hard for the \$2bn plus Saudi covers roughly the same amount higher than in their home their PTTs—the British Post Arabian network extension constraint which went to the phone needs of 8 per cent of of growth elsewhere, especially European countries, which number of UK companies, bid Americans (which means it in Europe, are beginning to be generally have the support of hard for the \$2bn plus Saudi covers roughly the same amount higher than in their home their PTTs—the British Post Arabian network extension conof ground as the UK Post markets, and all are experience. Office will buy from Plessey, tract, which went to the

digital line system.

switching system.



Retiring chairman of AT&T, Mr. John de Butts.

helped put telephones in virtually every American building, now must find foreign buildings in which to put them if it is to sustain production at present levels. So American telecommunications companies have become more export con- munication company over two scious and are fighting hard for years ago—a project which orders. While they would dearly turned sour after the Islamic like to compete in Western revolution, and which is for the

STC scientist invented pulse code modulation.

STC conceived optical fibre transmission.

local analogue electronic exchange.

repeatered optical line system.

communications system.

undersea communications system.

STC installed the first UK medium-to-large

STC installed the world's first high-capacity

STC developed the world's highest-capacity

STC installed the first computer-controlled p.c.m.

STC installed the world's first solid-state undersea

STC installed Europe's first high-capacity trunk

GEC and STC, the Bundespost demand. This is perhaps especi-ally the case with the giant from CIT Alcatel and Thomson Western Electric, which has CSF, and so on. They have thus turned to the next richest market, the Middle East, and have scored some successes. GTE, for example, won a

\$500m contract to supply 680,000 lines to Iran's telecom-

Ericsson/Phillips/Bell Canada defensive. The Carterphone natural ones and the most efficconsortium in 1977. Nothing decision was followed by the lent way of running a service. another consortium, this time with GTE and Continental, to with GTE and Continental, to lost its case for a total monopoly communications, Mr. John debid for the even richer Egyptian over transmission. In 1974, an Butts, retiring chairman of contract would include the concontract would include the construction of a manufacturing tric manufacturing arm. Howplant in Egypt, supplying both Egyptian and — politics permitting—other Middle East reintroduced without the call countries as well. The deal for Western to be divested.

Framework

divest Bell of its Western Electric the customer paid more polition." he said, between this year, the "rewrite" sense for most of our committing—other Middle East reintroduced without the call for Western to be divested.

Framework

Tramework port for the financing: that support has now been forthcoming, but the deal is still to be concluded. Other companies have prepared bids for the contract, and the French in particular have been active in take attempting to catch the Egyptian's eyes. The Egyptians appear to be in no hurry to settle their favours - though many believe that the Camp David agreement, together with the promise of U.S. fighters for the Egyptian air force, may in

original consortium. In the home market, regulation and deregulation occupies the minds of the companies. Since 1968, when the Carterphone decision allowed a small company (now in the possession equipment to the Bell network to what they see as a spirit of in the teeth of AT&T, the unrestricted competition, feelmighty Bell has been on the ing that some monopolies are

Specialised Common Carrier In a ruminative interview given Decision of 1971, in which Bell to the U.S. magazine Tele-

かないいいる

Framework

Now, the new chairman of the Senate sub-committee on Communications, Mr. Lionel van abandon that notion altogether Deerlin, has set in train the rewrite of the 1935 Communications Act. a process which will take some months—possibly we do really what is at a legislative framework to an industry which has changed enormously since the mid-1930s and which, as the bill's drafters ruefully acknowledge, continue to change rapidly even as they attempt to legislate for it. The of assuring the affordability of details of it are not yet gener- basic service. Competition tills the end sway them towards the ally known, but most expect that the balance to the interest of it will be broadly hostile to a the large business user. I don't of the Bell monopoly, and attempt to deregulate much of the market, allowing unrestricted domestic and foreign interest.' of the UK company Cable and competition. Bell, and to a Wireless) to interconnect its lesser extent GTE, are opposed

contract, worth initially some anti-trust suit was filed in an AT&T, strongly defended his \$2bn, but worth up to ten times attempt by the Federal Govern- pro-monopoly stance by arguing that over the next 20 years. The ment's anti-trust division to that total deregulation meant divest Bell of its Western Elec- the customer paid more. "Comsense for most of our economy ... (but) ... long ago, it was recognised that the telephone service was one of these activities that could be carried out more rationally and efficiently by one enterprise rather than two or more. What I've been trying to say is that before we Act, a process which will some months—possibly we do really what is at issue is how the common costs islative framework to an of communications services will be allocated among various classes of users. Traditionally that allocation as a matter of policy has favoured the residential customer in the interests basic service. Competition tilts

> The years immediately ahead balance will be.

> be agreed, represents the public

Hard sell in the Middle East

communications, or the fastest But it is the newest to nised that in most cases those open up, and, more important countries with most cash and

Another glance at the world market graph on Page I will make the point. Of the areas shown all except the three at the bottom of the figure are committed, wholly or in large part, to buying from domestic

Of the bottom three, Latin towards the Japanese, though

Thus it is that as US and markets for their latest equip-ment, the Middle East is often explore. Here we will include, as the companies often do, the oil-rich African State of Nigeria, since its buying pat-terns reflect many of the characteristics of the Middle

East States. A recent report by consul-tants Frost and Sullivan on marketing in the Middle East contained a long list of do's and don'ts to would be marketeers. and stressed the difficul-ties of the area. "True market sizes," the report says, "cannot be determined by methods developed for Western countries, for markets do not follow the traditional growth sophisticated developed countries growing in an orderly fashion. The best words to describe market conditions are chaotic and erratic. The problem is that there are no reliable historical market data for the majority of the Rider—and other European countries in Africa, the Middle East and the Near East. In and Philips in particular had many cases, estimates of the very population of a given country can be off by 30 per cent either way."

The Saudi market made its most dramatic announcement urgency (to buy systems) is so the country can be off by 30 per cent either way."

Distressing

Such lack of data is distressing for communications com-panies, which more than most like to be armed with sheaves of statistics, and it is a necessary caveat to be borne in mind when reading figures on the market including those reproduced here. While no doubt satisfied with progress of the as accurate as their producers can make them, they are subject to quite dramatic revision as new information becomes available, and estimates differ their communications system widely. For instance, the experienced U.S. consultants A. D. prime contractor is the UK Little predict 3.5m new lines period up to 1981, and 38m Wireless worth up to £400m. more from 1981 to 1985. But Contracts have still to be placed, since government spending but it is likely that UK complans may be pushed up sharply, panies will benefit from the or cut back sharply, in that deal.

THE MIDDLE EAST is not the period, the estimate can only most lucrative market for tele- be a "best guess." growing, or the easiest to sell. are increased when it is recog-

even though they may have a usually depend on outside contraditional circle of manufacturactors for everything, including eventual management of the system. This posture of ex-treme dependence on overseas expertise has given rise to allegations of price loading and extensive bribery, which con-The Europeans are traditional

suppliers to much of the Middle East, and to Nigeria, simply because many of the countries America has attracted the were British or German or interest of Siemens, Ericsson Italian colonies. These loyalties and ITT for many years, and have been wearing thin for their presence means tough some time and though Cable competition for new entrants, and Wireless, the UK State-The Far Eastern and Pacific owned company which provides tend increasingly a wide range of telecom ser-the Japanese, though vices, still manages or partthe UK remains strong here manages many networks, and there. But in the Middle British suppliers are no longer East. although there is a automatically chosen, the more plethora of suppliers, none is especially since they have felt to be strong enough to present unbeatable competition. especially since they have fallen behind in the technology race in the field of switching equipment. Besides the Euro-European companies look for peans, both U.S. and Japanese the first for quality, speed of delivery and as result of diplo-matic pressure, the second on

price, speed and persistence. Saudi Arabia, the richest of the States and thus the focus of the most attention, shows in its purchasing policies the eclectic nature of Middle Eastern buying, and explains why the companies do not regard the market as "sewn up." A U.S. Depart-ment of Commerce, survey has noted that (a) there is no native manufacture, thus imports make companies have supcable television sysand consultancy work (A. D. Little), together with a large number of such components as thermionic valves, transistors and so on. They were less well represented in telecommunications, where UΚ companies-Plessey, GEC and

consultants Preece Cardew and

companies—Ericsson.

some two years ago when it became clear that of three consortia bidding hard for the \$2-\$3bn contract to extend the Saudi network, the Euro-Canadian group made up of Ericsson, Philips and Bell Canada had been successful. The usual allegations of sharp practice showered down on the successful consortium like confetti. Eastern The Saudis, however, seem work so far, since the contract has recently been extended. At

be a "best guess."

oil-rich. It is instead peopleThese and other difficulties rich, which means that it is poor. The country has achieved notoriety for the unreliability of its telephone system, and the telecommunications most desire to instal an ultra- President Anwar Sadat's Governcompanies, it is the freest, modern telecommunications ment has moved to cure the rudimentary system most rapidly are usually problem by proposing a 20-year systems rarely have firm for those with the crudest system modernisation and expansion ward commitments to suppliers at present. They must thus programme worth anything up to \$20bn. A consortium com-posed of Bell's Western Electric. GTE and Continentalthe expansion — has been thought likely to take the deal, which involves the construction of manufacturing facilities for electronic equipment in Cairo. Other companies are seeking to get all or part of the action, but the consortium will be hard to

> Much high-level diplomacy has been put into the contract, and continues to be. The U.S. after its comparative lack of success in Saudi in 1977 (Wesof Iranian business (GTE). The combination of hunger and size will make the consortium hard

Setbacks

Nigeria, which sought to leap forward at least as rapidly as Saudi, suffered some setbacks to its efforts. Its third development plan set aside \$1.8bn for telecommunications growth, but contracts, placed with Northern Telecom then with ITT and Siemens, proved ill-framed, orders were can-celled, Northern Telecom dropped out of the market and now a more modest rate of with ITT remaining as a major

contractor. In general, the Middle Eastern/Nigerian markets now seem to have settled somewhat tems (RCA), mobile radio treated the area as a latter-day equipment (General Electric) Yukon, Both sides are more and consultancy work sophisticated. The sellers have learnt, often the hard way, not precents which were described by Frost and Sullivan as "Middle Eastern Myths"—a selection of which are:-

· They have lots of money to throw around." "The oil-rich countries are the easiest places to sell. Prices in the oil-rich

great. @ "Schmear (bribe) the right

person(s) and you'll be set up for life."

"You can dump all your obsolete equipment on to the Middle East; since they're so

hackward anyway they won't

know the difference." For their part the Middle reportedly ceased to regard all overseas companies as con-fidence tricksters.

They now prefer to deal the same time, the country's where possible with the State or National Guard are to have a State agency, in the belief a State agency, in the belief that here honesty is more likely 10 prevail. (The Saudi National prime contractor is the UK Guard deal is a case in point.) Ministry of Defence on a back- While few companies will insist

STC. We help people communicate. ke a habit of being first.

Standard Telephones and Cables Limited

A British Company of TTT

Exchanges due for a change

THE HEART of the telephone are arranged in vertical banks. and this should begin to ring dial on the telephone instrusystem in Britain, like many Each time the subscriber once the final selector arm ment operates at a speed of 10

France are all investing heavily across a row of contactsin modern electronics tech- depending on the digit dialled. - nology, the Strowger system is still the predominant system by rest, which telephone calls are

Strowger known as step-by-step systems. They are made up of a series of rotary switches called selectors. The switches in the selectors telephone to receive the call

other countries, is still based on turns the dial on the telephone, electro-mechanical electric pulses corresponding to equipment-in fact an auto- the number dialled are sent matic exchange invented by Mr. down the telephone line-which Almon B. Strowger, an is a pair of copper wires—to American undertaker, in 1889. the exchange. There the pulses While Britain and other activate a moveable arm in one countries such as West Ger- bank of selectors which moves a many, Netherlands, Sweden and certain number of positions

> Once the arm has come to the caller becomes connected to another selector and waits to receive the next exchanges are set of pulses from the dial. A contact on the last selectorrepresenting the last number dialled-is connected to the

comes to rest.

When originally designed, exchanges were Strowger considered to be extremely fast since it took only a few seconds automatic make an connection. However, modern telephone demands have put a strain on exchanges which are simple, and once were cheap to instal. These exchanges are slow because most telephones today have numbers of at least seven digits, and international calls can have up to 15 digits, which makes dialling a very tedious superior to Strowger. and slow business with this

kind of exchange.

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pulses per second, so that when the digit zero is dialled it takes a full second to generate the pulses. In reality the equipment is so slow that an extra space is provided between the digit one and the end stop of the dial to allow it to work properly.

However, in the 1940s another electromechanical type of electromechanical exchange appeared to challenge the Strowger system. This was Crossbar, originally invented in the U.S. in 1916 but first installed in Sweden in 1926. Crossbar is in many respects

It uses a series of horizontal and vertical wires connected to each telephone via the

other at the point where they The exchange governed by a common control which operates the matrix of and makes wires connections.

The crossbar matrix and its principle of common control was an important step for the telecommunications industry because it was realised that Crossbar could form the intermediate step towards achieving totally electronic telephone switching.

In fact, many electronic exchanges today are modern versions of Crossbar making use of electronics tech-

nology to update the design.
The surprising thing is that most British calls are still going through the slow mechanical Strowger exchanges. In 1975 it was estimated that about 87 per cent of British subscribers were still connected to Strowger. in contrast to the U.S. which had made considerable investment in the intermediate Crossbar with its common control system. By 1965 the U.S. had installed its first electronic switching system, the ESS1.

Eventually Britain, after a disastrous start, came up with two versions of electronic exchange: the TXE 2 for suburban and rural areas and the TXE 4 for larger towns and cities. (TXE 1 and 3 had been experimental designs only.) But these exchanges are not as advanced as foreign designs because they do not have the important feature of stored program con-

For totally electronic

exchange. In very simple terms, change is replaced by stored to telephone, the vertical wires program control. This type of from one telephone are linked exchange is highly flexible since to the horizontal wires from the all the information about every telephone subscriber is kept in a computer memory.

Changes are made simply by punching out instructions on a computer terminal keyboard. A subscriber's number can altered in this way—in electro-mechanical system engineer physically has to disconnect two wires on the exchange and relocate them.

Electronic exchanges cheaper, more sophisticated, more reliable—and so need less maintenance—and can be stalled faster. The use of computer techniques greatly improves the facilities that can be offered both to the subscriber and the telecommunications authorities. For example, the electronic system provide a complete billing statement which is impossible using the electro-mechanical exchanges. It also can monitor and analyse the number of telephone calls that are going through the system so that authorities can plan the expan-sion of their networks accord-

Electronic exchanges can be designed using two fundamentally different techniques these are known as space division and time division. Strowger and Crossbar are both time division systems, hence Britain's TXE exchanges are also based on time division because they will have to work side by side with the old systems for many years to come.

In space division systems, a separate physical path— i.e. the two copper wires—is needed for each telephone subscriber. Time division systems do not need such individual connections at the exchange.

In time division systems each

FIGURES FOR EXCHANGE ...Uniselector

MAKING A CALL ON A STROWGER ELECTRO-MECHANICAL EXCHANG

verted into a string-of binary digits (the coded signals which are used in all computer systems). This allows many separate conversations to be interleaved to form a single stream of digits using a technique called time division multiplexing.

Eventually, all exchanges will use this system since it means that instead of each home or business having its own line at the exchange a block of 50 to 100 houses, say, would share a-limited number of lines. The number of lines provided would depend on determining statistically the average use of a tele-phone each day and allowing a good margin for peak use.

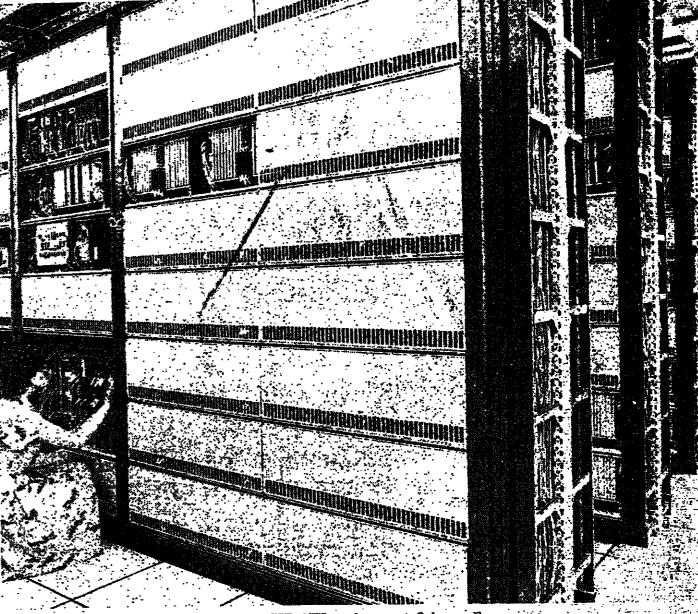
Crowded

Unlike shared lines on the electro-mechanical, crowded division space subscribers connected to electronic systems need know they are sharing a line

caller picks up his the receiver, electronics detect this and search for a spare unused line and connect it to the telephone. This gives great benefit to the telecommunication authorities sinco-it means that not only can they plan the growth of their system more carefully and have more information to hand, but it also cuts down the amount of new, expensive installed each year.

in a world becoming increasingly dependant on the computer it is a logical step to technology to the telecommunications network since having digital techniques extending mio the home offers many possibilities, including home computers linked to husiness computers over the telephone network, electronic mail and electronic funds transfer, and automatic reading of electricity and other meters.

Elaine Williams



A Thomson-CSF AXE exchange at Orleans, France.

Disastrous

telecommunications have borrowed extensively from the computer industry. Common

Data Communications

In seven locations ranging from Asuncion to Nairobi, Philips is installing computerized message and data switching centres for the vital Aeronautical Fixed Telecommunications Network.

Traffic Control

The world's largest computerized traffic control system, automatically supervising over 1000 intersections, is being installed in Mexico City by Philips Telecommunications.

Among the many PCM and FDM transmission systems currently being installed. is the new 1400 km Saudi Arabian backbone cable route, the world's longest 60MHz coaxial system and the first to carry telephone and colour television channels simultaneously.

Philips Telecommunications, P.O.Box 32, 1200 JD Hilversum, the Netherlands.

A list of Philips' contributions to international telecommunications over the past four decades would fill many pages, but it is more useful to consider the present rather than the past. A small selection of projects currently being executed around the world provides an indication of Philips' scope and ability in telecommunications:

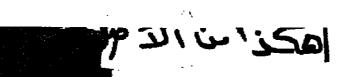
Phillips is right on schedule in the massive Saudi Arabian telephone expansion programme, one of the world's largest and most technologically advanced telecommu-

Some Ability Scope Ability Scope Ability Scope Ability Scope Ability in Telecommunications



Philips Telecommunications





Debut for System X

IN THE 1960s, when almost placing modules with new A decade of research and The everything about Britam's designs.

development in a dozen indicting the fully electronic tele.

System X is the brainchild of laboratories in Britain lies be picks phone switching was an unknown the British telecommunications factor, someone dubbed the industry, born of the dual dename stuck. The switching system which makes its inter-national debut in Geneva this week, as the focus of the British exhibition, is now known commercially as System X.

The concept is elegant and extremely simple—a family of solid-state electronic modules which can be rearranged in a British industry-customer and great many ways to make an all major suppliers—have col-exchange of the capacity and laborated as a single team. The other parameters required by Post Office alone has already the customer. It is "electronic spent more than £150m on repopular toy in which standard plastic shapes are snapped to £200m. But Mr. Desmond gether to make the desired Pilcher, managing director of design of toy. The modules of Plessey Telecommunications. System X plug into each other points out that the real strength to build up the exchange—anyof System X is that four very
thing from the simplest to experienced teams are pooling machines more sophisticated than the system designers can important computer programs.

which do not yet exist and re- kets.

System X is the brainchild of mands of the world's thirdlargest telephone administra-tion, with its dramatic rates of growth in traffic, and of suppliers which wanted a system with real export potential for a long time ahead.

It is the first technical development in which the entire '-modelled upon the search and development and exart toy in which standard pects the final bill to be a least resources to develop the all-

"There's every chance we'll Ultimately, telephone switch-ing and transmission in Britain liable software." he believes. It is to be integrated through could be the decisive factor in System X, by adding modules selling to many overseas mar-

A Post Office research engineer uses a logic probe to miasure a line card on a

System X sub-system

development in a dozen indicates the source when he In turn, several System X ex-laboratories in Britain lies be- picks up his receiver, and pro- changes will be supervised for has advanced rapidly. The first to follow.

expected to be ready for testing code modulation (PCM) to at the factories of GEC and make an analogue-to-digital conPlessey. By mid-summer 1980 version at one end, then the Post Office expects to be reversing the process at the installing its first prototype in other end. Baynards House, its new head-

Records

In any electronic exchange. computers continously control taneously they perform the "housekeeping" chores of compiling records of charges, traffic and system per-ce. The first task of System X is to set up the call.

The special feature of System

X is the way the large number of electronic manipulations needed on each pulse has been assigned to modules. The modules are totally interchangeable and can be put together in such a way as to provide an exchange with the characteristics and performance needed in any given situation, large or small, simple or com-They are a family of building bricks. The over-riding objective has been infinite flexibility: a system adaptable to any situation from the smallest local exchange to the largest international

the cost of an exchange but about 90 per cent of its in-

caller

experimental System X ex- Once a path is established change was demonstrated to top the electronics must be able to Post Office executives this send a continuous stream of spring. By the end of the year speech signals in both directhe first prototype models are tions. It does so by using pulse

make an analogue-to-digital con-synchronisation. Thus, speech signals are sampled " in bits at the rate

of 32 times a second and 30 of these bits-two are reserved for housekeeping—are transmitted through the exchange. Inside the exchange they mix with many other digital pulses, each the process of setting up and representing a fragment of disconnecting the calls. Simul-someone's words.

For the exchange the problem might be likened to one of a railway station in which very long trains are constantly arriving but stopping only very briefly. The porters are rushing around trying to transfer mailbags (the bits) from one train to another in a sequence and at a rate which ensures that each one will arrive at its destination—and in the right

exchange.

The core of any System X exchange will be the digital switching sub-system (DSS), of which there may be as many as 11 to safeguard against break-This will be driven by a dedicated computer, the pro-cessor sub-system (PS), representing perhaps 10-15 per cent of

hind System X. The basic idea vides the required destination performance by another comof developing a modular system by dialling the number. The puter. The aim must be to began to gell only in 1976. Not system then asks a processor to establish a synchronous teleuntil the end of 1977 was there calculate a path for the conhardware to show, but in the nection and to instruct the rate throughout, if information last 18 months the engineering switching that this is the path is not to be lost or repeated. So, has advanced applied. The first each exchange will have its own atomic clock; and each will be "listening" to the bit rate of several other exchanges and constantly sending out signals to speed up or slow down their bit rates in order to maintain

> Another important module is the one which converts analogue to digital signals and vice-versa. This is the analogue line ter-mination sub-system (ALTS). As System X develops, however, the ALTS function will probably be performed not in the exchange but at or near the telephone itself, for example as part of a telecommunication terminal.

ariety

Altogether, there are seven of these modules under development from which a variety of System X exchanges can be assembled. No less important. however, is the family of computer programs-software packages-being written for the processor sub-system. The PS consists of a large and a small processor together with a number of microprocessors. Between them they provide the "brain" of an exchange. Individual programs—nine are under development—take care of such functions as call accounting, overload control, day-to-day system management, and the compiling of statistics for management planning.

One programe will constantly scrutinise the entire exchangesoftware as well as hardwarefor signs of trouble. This is the maintenance control sub-system (MCS), one of the most exciting concepts in man-machine relationships associated with System X. The engineers will be able to interrogate the exchange by way of this program, using a

video display unit and printout

to find out what the machine is "thinking." But the idea is that once the exchange is in routine operation the MCS will call up the local administrative centre (LAC) automatically if it believes it needs human help. Otherwise,

it will be entirely automatic.

Revolution in cable making

ONE OF the most vital, yet un- of commercial applications.

Submarine cable. glamorous, sectors of the tele-Research work has not been communications industry has moving fast enough into been cables. However, this sec- marketable tor has also been undergoing a although several experimental

Eventually, optical cables will which have to be faced. supersede the conventional copper cables which lie buried in telephone cable ducts through-out the world, but at present they are still very much experimental systems.

Most European countries, and the U.S. and Japan have been active in pursuing the design of telecommunications systems which incorporate optical fibres since they are ideal for use with totally electronic digital ex-changes which are now being introduced all over the world. In addition, optical fibres are far smaller than traditional designs, and are immune to elec-

trical interference. Experimental systems have been installed for evaluation by companies such as Pirelli in very competitive prices will tally. Siecor in Germany (Siecor is a joint venture between Siemens in West Germany and Corning Glass in the LLS Philips in the Nothern the U.S.), Philips in the Netherlands, Thomson CSF in France and the British Post Office has several systems installed using equipment from STC, Plessey

However, it is estimated that the optical fibre market will not take off until well into the 1980s. A report by Frost and Sullivan earlier this year fore-cast that the current demand of \$11m worldwide for optical • External telephone cable fibre would increase to \$60m in 1987 and then leap to a value of \$179m in 1992.

This potentially high demand would come from the provision routes. of wired home services such as table television, automatic meter reading and electronic funds transfer. The telephone and telecommunications market alone will be worth more than half the total in 1987, at \$32m, rising to \$120m in 1992 or nearly

two thirds the total. Britain, which pioneered the development of optical fibres in nan help. Otherwise, the late 1960s, has already private telephone excuse the late 19

products

The Post Office has been aware of this shortcoming for a long time and has been taking steps to instal more systems with the aim of producing the first generation of optical fibre telecommunications links — a system which would also be a showcase for potential overseas

In selling systems overseas Britain would face strong com-petition from the U.S. since the U.S. Corning and ITT organisations are leaders in the manufacture of optical fibre. Japan is still an unknown quantity but is certainly with the leaders in performance and the country's ability to export at

But for the present, con-ventional demand for copper cables will remain stable. In Britain about 95 per cent of all telecommunications cable is bought by the Post Office from four principal manufacturers: BICC, Telephone Cables (a subsidiary of GEC), STC, and Pirelli General.

Telecommunications can be divided into four basic types:

which comprises

(a) coaxial cable used in long-distance telephony on national and international

(b) "Quad" type junction or trunk cable used to connect main and local telephone ex-

(c) subscriber cable which is used to connect a local exchange to a cabinet in the road, and a distributor subscriber cable used to hook up an individual telephone set to a cabinet or a private telephone exchange. Internal telephone cable;

About 90 per cent of the chases are for external cable. Sales in 1976 were valued at major revolution of its own be- systems are installed around £64.7m and have declined cause of the development of the country, the routes are slightly since 1974. The Post optical fibres—the hair-thin short and are not entirely Office has managed to keep its strands of glass which can carry hundreds of telephone conver-sations simultaneously.

Satisfactory from the point of demand for copper cable at a fairly stable level because of the engineering problems technical advances which have allowed it to use existing in-

stalled cable more efficiently. By employing techniques such as multiplexing, more telephone calls can be transmitted down a communications link. This means that instead of having to instal new cable and all the necessary ducting the Post Office can delay such work and

even avoid doing it altogether. Once optical fibres become established it would also mean that when a duct becomes full of conventional cables, it would be possible to squeeze in a small optical cable with the same capa city as a conventional cable. 'Because the optical cable is so much smaller it can fit into ducts congested with copper cables and again save the Post Office the expense of digging up the

road to provide new ducts. Another way of saving on the amount of cable which has to be installed wil be by the introexchanges coupled with optical fibres. This saving will be achieved because instead of proyiding a line for each telephone subscriber in an area as is necessary now, the Post Office will have only to provide a proportion of them.

Since at any given time only a few telephones will be in us it is possible to predict this number statistically, so that when a caller lifts a handset the electronic equipment will seek an available line and switch it to the subscriber's telephone. He will never know that he has to share this line with several others.

The development in electronics telecommunications and optical fibres will eventually cause the conventional cable market to decline but since glass is more readily available than copper, which becomes increasingly expensive, there is little cause to regret its passing.

Elaine Williams

Notjust System X -here are more engineering achievements of Post Office Telecommunications.

- * Subscriber Trunk Dialling for everyone in the UK.
- * International Direct Dialling leads the world in giving 94% of customers access to as many as 400,000,000 phones in 86 countries.
- Prestel, the world's first public viewdata service, already sold to West Germany, The Netherlands, Switzerland and Hong Kong.
- * Optical Fibre Transmission, a new method of sending calls using pulses of light.
- * Confravision, a unique TV link between major British cities that saves businessmen unnecessary travel.
- * International Packet Switching Service. the first commercial intercontinental packet-switched data service to
- * Radiopaging, the world's largest integrated network now being installed.
- * Telconsult, a service which helps other countries set up sophisticated telecommunications systems of their own.
- Orator, a new audio conference facility



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Technology and the free society

nothing; without energy matter tures and the book is inert; and without information, matter and energy are disorganised, hence useless." (Anthony Oetlinger).

THE APHORISM above may stand as a text to a feature on the general theory which lies behind the growth of communications generally, and telecom- for new ideologies." munications in particular. For while the Anglo-Saxon races are notoriously unreceptive to theoretical matters, it is the case that this industry, unlike previously crucially important industries—coal, steel, chemi-cals—has surrounded itself an array of academic underpinnings, explanations and theoretical constructs which apart from being a minor industry in themselves have been taken up by industry and used in turn as models for its levelopment and strategies.

The most popular theorist communications remains Marshall McLuhan, a Canadian academie, who coined the phrases "the medium is the message" and "the global village," and who, in a clutch of books written in the 1960s. propagated the general notion that the modes of communication were not merely by-products of a given level of culture, but crucially shaped and determined cultures, social move-ments and industrial organisa-

McLuhan owed many of his insights to a lesser-known theorist. Harold Innis, whose ideas reached a rather smaller audience in the 1950s. Innis' arguments may be briefly appreciated from this excerpt essay. Minerva's Owl," in which he attempted to show that sudden extensions of communication are reflected in cultural disturbances.

The use of clay favoured a dominant role for the temples with an emphasis on priesthood and religion. Libraries were built up in Babylon and Nineren to strengthen the power of monarchy. Papyrus favoured the development of political organisation in Egypt. Papyrus and a simplified form of writing in the alphabet supported the growth of democratic organisation, literature and philosophy in Greece . . improvement of scripts and feider discemination of knowledge enabled the Jews

WITHOUT MATTER there is to survive by emphasis on scrip-

turn Christianity exploited the advantages of parchment and codes in the Bible printing brought renewed emphasis on the book and the rise of the Reformation. In turn new methods of communication weakened the worship of the book and opened the way

Thus, a given mode of com-munication is dialectical in its operation: it both is produced by, and produces, a determinant series of cultural effects. While it is clear, given an understand-ing of the insights of Innis and McLuhan, how historical media acted upon their societies, it is inevitably less clear what is happening around us: we are rarely able to see the wood for the trees.

Crossing

of freedom.

Prof. Daniel Bell, who has written at length on these matters, brings up to date with a consideration of the effects of the most modern mode, that of the crossing of the computer with telecommunications, now known as compunications." In his essay. The Social Framework of the Information Society, Bell writes (referring to U.S. experience. similar in many respect to European): "The question we have been raising about the fusion of communications technologies — the rise of compunications - are not only technological and economic but, political. important, Information is power. Control over communication services is a source of power. Access to communication is a condition

"There are legal questions that derive directly from this. The electronic media, such as television, are regulated, with explicit rules about "fairness" of presentation of view, access to reply to editorials, and the like. But the power, ultimately. governmental in that decisions about a station's future lie with the Federal Communications Commission. The telephone industry is regulated on its rates and conditions of service. The computer industry is unregulated and operates in a free market. The print media are arneln private or controlled Nove banks assembled by



Marshall McTuban: communications guru extraordinary

agencies and by private cor-split up into discrete messages porations. Are they to be to workers, customers or other under Government supervision or unregulated? All of these are major questions for the future of a free

From these lines of thought we may distinguish here two strands. First, can we begin to discern the practical effects compunications will have on our working practices, on industrial and economic organisation? Second. will the apparently inexorable development of the combined technologies, its evermore pervasive spread and the power which, as Bell and Innis note, it gives to those government agencies and corporations which can assemble data and transmit the information to a multitude of stations, mean that widespread social changes are in train as a result of the pos-

sibilities of the technology? The first of these questions has become familiar to Europeans in the last two years. Compunications has been the subject of Government and other reports, and its potential effects forecast. Most agree that the office, in which more and more people now pass their working are less clearly seen. Autolives, will see major changes, mated production is already a The office is, after all, a com- thing of the present, but indusunregulated. libraries have munications and information trial robots which can process been largely private or centre in which information is information at the rate human rom a commercial, being industrial or distributive pro- equivalent to eyes and a brain

workers in other offices. Commands are given and received, requests accepted or rejected.

The new technology allows these processes to be systematised more rapidly than ever before-in a computer-and recalled immediately not only at the place of work, but at remote terminals linked, through the telecommunications network, to the main storage.

In short—and given appropriate technology—infor-mation can be received, sorted and disseminated at an enormously rapid rate. The productivity of bureaucracy is raised enormously, and so is the level of information which can be brought to bear on any problem. The systematisation of work has a leap: its effect on workers is to demand that they become more highly skilled in order to be able to deal with the mass of information their machines make available to them, while the effect on work processes is to make them more

efficient and more rapid. In manufacturing, the effects mated production is already a -that is have the

Once they are, then many more production line tasks could be automated, and may be controlled from central or distributed computers according to information fed to them from designing or planning offices.

The net effect of the progressive introduction of automation into office and production work, then, is to allow streams of different grades of information to flow as directly as possible into the productive process, raising its efficiency and increasing man's dominance over nature which, as Mark once remarked, was a hallmark of civilisation itself.

For many, perspectives such as these roise spectres of a society peopled by automata, controlled by an oligarchy which has total control because of its monopoly of the com-munications media. It is true, of course, that the more effec-tive the means of communications, especially telecommunications, become, so the more potential there is for social control. Most terror stories of the future have something equivaleut to the two-way videoscreens which rule Oceania in Orwell's

Alarm

In short, it is a source of alarm to many that we should be advancing into a world in which privacy may be threatened because of the potential will him for tial our rulers will have for knowing a great deal about us whenever they wish to.

These issues are not confined to future ages. Even new, the growth of data banks, and the increased demand for data transmission through public telecommunications networks. has caused several governments to study the problem and to consider ways of regulating data flows at least in part in the interest of privacy. At the same time, the burgeoning of police data banks, holding records on everyone convicted of any offence, from the most minor, to which a policeman on the beat-may in theory have instant access, has caused concern. So they should:

As a corrective to some of these fears, it might be observed that particular communications modes are, as we have said, interactive with society and with its polity, nut determinant of it. It is the case that the communications systems we are developing could be a powerful weapon in hands of a dictator.

At the same time, the spread of cheap communications media and computers means that control—if defined as ownership of new technology — is extra-ordinarily diffuse. The key question is the polity itself: where it is inimical to freedom, techpology will aid it. Where it is supportive of freedom, technology can be made to aid that,

Satellites for all purposes

IT IS still less than 22 years larger, and technologists can since the world's first artificial already visualise the day when satellite, Sputnik I, orbited the satellites of 100,000 circuits are Earth in 1957; and little more in orbit. New technological than 16 years since the first developments currently under effective communications satel study include multi-beam antenlite. Syncom: was launched in nae capable of providing highly 1963. In that time, communication by satellite has progressed targeted to earth stations on with almost astenishing rapidity, and is now one of the most effective methods of linking the far corners of the globe.

The extent of the technological revolution already achieved in satellite communications can be gauged from the fact that, whereas Syncom had capacity for 50 two-way voice channels or one TV channel, the latest breed of satellite now under development by Hughes Aircraft Company of the U.S. for Satel-lite Business Systems of the will have capacity for 13,900 simultaneous telephone calls. Even bigger satellites are envisaged for the future.

So extensive has the world communications satellite system become that it is estimated that there are over 200 earth stations now in use, in over 100 countries, providing well over 217 antennae, with many more already planned for the 1980s. Although there has been a

substantial growth in the use of satellites for a wide variety of civil missions in recent years —including weather forecasting, earth resources monitoring, navigation and environmental studies - communications remains one of the major applications with several major international organisations involved. The International Telecommunications Statellite Organisation (Intelsat), is the most significant of these. More than 100 countries are now members of this organisation, linked through a complex system of more than 100 ground stations and a series of satellites permanently located over the Atlantic. Indian and Pacific Oceans. The system's latest satellites, the Intelsat Vs. have an operational capacity of 12,000 telephone circuits plus two TV channels. For the future, the Intelsat VI series of satellites for the late 1980s will be even

the earth's surface: direct inter-satellite links; and a variety of digital communications tech-

Comparable

In addition to Intelsat, another comparable organisation is being established called Inmarsat—International Maritime Satellite Organisation. This will make it possible for ships at sea to communicate instantly with shore stations thousands of miles away by means of on-board transmitters and receivers linking directly with the satellites. The U.S. Navy has already been using such a system for some time and more recently it has also become available commercially in the U.S., through the Marisat satellites.

A programme of development of European maritime satellites is also under way, called Marecs, derived from work also already being done by the European Space Agency on what is known as the European Communications ECS). The first two Marecs intended to be the forerunner satellites are scheduled to be of a large platform in space launched by the European which will carry a variety of Ariane rocket in 1980 and 1981. future television and radio The Inmarsat network is ex- communications payloads for pected to have six satellites direct transmission into homes initially, comprising three or community antennae, Marecs and three Intelsat Vs enabling the dissemination of equipped with maritime pay- TV and radio programmes over

In order to meet the requirements of the European posts, a trend is emerging for what telecommunications and broad- are in effect "regional satellites" casting administrations for —the provision of satellites point-to-point communications ground stations and other (telephones, telegraph, telex, related ground infrastructures, Eurovision TV programmes and such as telephone and TV data transmission) the Euro- stations where these do not pean Space Agency some time already exist—so that particu-ago developed the Orbital Test lar regions can have their Satellite (OTS). The first of own satellite communications

these was lost on launch in 1977, but a second has been functioning successfully since 1978. The aim of OTS-2 has been to demonstrate the performance of on-board satellite equipment and to provide an experimental, pre-operational traffic capacity of 6,000 telephone circuits or 4,500 telephone circuits and two TV channels. This work on OTS is already

leading on to the development of the European Communications Satellite (ECS), the first satellite of which is due to be launched aboard the Ariane rocket in late 1981. Earlier this year, an organisation called Interim Eutelsat, comprising 17 of the European telecommuni-cations administrations, signed a \$200m agreement with the European Space Agency for the provision of five satellites over the next decade, comprising the space segment" of the ECS programme.

The ECS programme will provide Europe with a regional communications system, covering telephone, telex, TV and data transmission, capacity equal to 20,000 tele-phone circuits or 12,000 circuits and some TV channels,

Also under development in Europe is the H-Sat, a heavy experimental satellite of about 900 kg for launch aboard the Satellite Ariane rocket in 1982. This is

a much wider area.

Beyond these developments. CONTINUED ON NEXT PAGE

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Viewdata still in its infancy

between telecommunications and computing viewdata is the most public attention,

The reason is probably that it is a hybrid which is grafted on to the domestic television set and therefore promises a substantial new range of com-munications and information services to the ordinary house-

In spite of the very considerable publicity accorded to viewdata, and particularly to Prestel, the British Post Office's pioneering version of it, many people have still not grasped the extraordinary and revolutionary posibilities of the service.

In simple terms, viewdata is a method of storing words, figures and graphics on a computer in such a way that they can be displayed on a modified television set. The term view-

OF ALL the new services which tion is transmitted from the at present is the UK, where indexes to the information users, who are given an approach being born of the marriage computer to the sets via the Prestel was launched for which he wants. Alternatively printed password. telephone network. A related domestic users in the London he can dial straight in to the system, generically called tele- area earlier this year. An ex- desired page by looking up its one which has attracted the but the information is transmitted on spare capacity of the normal television broadcast channels

In the UK the main viewdata system is the Post Office's Prestel, although there are now a number of private systems under development. The two teletext systems are Oracle, transmitted by the independent television network, and Ceefax, sent out by the BBC.

The terminology has become extremely confusing recently because of the development of rival systems by the French, who in their usual fashion have insisted upon their own words. As a result the word "teletex is becoming used to describe all methods for displaying computer generated text on remote television screens.

gradual widening of coverage throughout the UK during the next three to five years.

Calculator

The system allows a user to call up any of some 200,000 "pages" (the information which can be displayed on a screen) by pressing buttons on a calculator style keypad which remotely controls the set. A permanent connection is made from the set through a standard jack plug into the telephone system. The system incorporates automatic dialling, so that the user only has to press a button in order to be connected to the computer.

As soon as he is connected the index page will appear, which will guide the user However, the only country to which will guide the user have systems in public service through a system of subsidiary

text, uses the same basic format, tension to business users is ex- number in a printed directory. pected in the autumn, with a The user has to pay the local telephone call charge and a special Prestel connection now commissioning such charge of 2p a minute while systems from manufacturers, using the service. In addition including the General Electric he has to pay a charge for each page he views, levied by the organisation which provided the information. This can vary from zero to the case of adverusing material or public information to 10p or 15p for specialised specialised business information. So far about 150 different organisations have contracted to provide information for the service. The Post Office acts only as a carrier and exercises minimum control over the information which is disseminated by the service.

In addition to the general service. Prestel also allows for closed groups to use the system to store information available only to a limited number of

Those organisation which do

not wish to use Prestel can establish their own computer for a private viewdata service. Several large companies are commissioning Company and Philips. The main use at present is for the display of internal company informa-

At present the information stored in the Prestel computers spans just about everything that could be published in newspapers, magazines or booklets. It also includes a substantial electronic encyclopaedia. Weather reports, timetables, theatre and entertainment guides, business statistics and sporting information are included in the general information services. Some organisa-tions like the discount warehouses have already started to use the new medium for advertising, and some ingenious entertainments, including quizzes and games, are also provided.

However, it is the interactive capability of the system that radically distinguishes it from all forms of conventional pub-lishing and whose potentialities have yet to be exploited. The fact that the user is connection directly to a computer means that he is able to send information or questions back to the

Limited

. This possibility is limited by the fact that most users will have only a simple numerical key pad and also by the fact that the transmission rate from user to computer is rather slow. However, the system is quite adequate to allow a user to answer questions from the computer by pressing buttons to of standard television sets. The signify "yes" or "non." He service is therefore entering a trol a pointer on the screen, or which its popularity will be rehe can type figures to fill a lated to the cheapness of the designated space in the frame, special microelectronic com-This last facility enables him to ponents needed, which in turn the computer personal details about, for example, a popularity of the service. The (with its own computing power house price, to enable a pro- price of information is also, and memory) and then a comhouse price, to enable a programme to-calculate his mortgage. He will also he able to

its uses—as shown here—will be to help the deaf to keep themselves informed exist or are in an advanced stage of development. The question which is now exercising the Post Office and the television set manufacturers is: How many people will want to use the service, and what will

they mostly use it for? The present consensus appears to be that Prestel will appeal mainly to business users in the first few years but that its appeal will gradually widen to the general public. However, the speed with which this happens is all important, because the essential feature of Prestel compared with other computer information systems is cheapness based on mass production service is therefore entering a critical "take-off" phase in will depend directly on the an clearly related to the number of

type in his credit card number

from its design phase in the
to make a direct purchase in
early part of the decade,
response to a Prestel advertisePrestel was conceived as a mass information system. It is there, goods with All these facilities already fore very important for the Post ten years.

the shortest possible time. The Post Office, which is pre-

The Post Office Prestel service went into operation earler this year. One of

a network of identical bility that the system stimulate greater use of the telephone network.

However, by the time Prestel is accepted as a normal item of In principle the adaption of a electronic newspapers and television set to display data electronic shopping are among converts it from being a piece the more obvious possibilities. of home entertainment into a More fundamentally, a powerful computer terminal. As the cost of microelec-

tronics and other computer components continues to fall, it will be possible to adapt the television set to become first an "intelligent terminal" puter in its own right. The present trend of costs makes it likely that Prested sets with full computing abilities will become commonpless consumer goods within the next five to

providers of information to the television screen would be achieve the widest coverage in linked to a low cost electric printer and a substantial memory with a microcomputer pared to spend some £100m somewhere in the middle. The over the next five years setting whole mini-system will be controlled by a full typewriter style Prestel computers, is also keyboard, and it will be able to keenly interested in the possi-communicate with the Prestel computers and switch other domestic systems through the telephone network.

The possible implications of such a system require a great home equipment, it will prob- leap of the imagination to ably have changed considerably. comprehend. Electronic mail. information network of this sort could in theory enable many people to do much of their work at home rather than going into the office. Whether this actually happens will depend on a range of social factors and on the price of transport. However, it is not far fetched to envisage the viewdata networks will help to bring about some fundamenta! changes in the organisation of

Max Wilkinsc:

Satellites CONTINUED FROM PREVIOUS PAGE

systems rather in the same way Communications Satellite Corspeed data transmission for already experimented with it. that Europe is developing its poration (Comsat) itself, which commercial users in the U.S. Dr. Charyk said the new serown communications system not only manages the Intelsat. For the future, the Comvice could be introduced as own communications system not only manages the Intelsat Such systems have been under system on behalf of the study for some time in the countries that own that system, Middle East, South-East Asia but also engages in other communications satellite activities. One of these is the Satellite and parts of Africa and South America. The various consortia of companies involved in com-Business Systems (SBS) group, set up by Comsat General Corporation (a wholly owned subsidiary of Communications munications and other satellite developments are especially interested in developing these Satellite Corporation), IBM and packages for the countries in the Third World, and some sub-Aetna Life and Casualty. Three satellites are being built, by Hughes Aircraft, with the first stantial business seems likely to be generated in this way through the 1980s. Such groups launch planned for mid-1980. The aim is to provide a domestic include the MESH consortium, comprising Engine Matra of U.S. satellite system for private France, Erno from West users with large communica-Germany, SAAB-Scania of tions needs, giving them Sweden, British Aerospace's instantaneous data, facsimile Sweden, British Aerospace's instantaneous data, facsimile Dynamics Group, Aeritalia from and tele-conference facilities Italy, INTA from Spain and from 1981. Fokker-VFW from Holland. TRW Systems of the U.S. is associated with companies in the

MESH group.

But the biggest "regional satellite system" user of all is still the U.S., where various organisations have been exten-1974. launched sively engaged in communica-tions satellites for some time the most significant being the phone calls, colour TV or high-

This monthly charge could be less than many families now pay for a single night out at the

Western Union Telegraph Company already has , two Westar communications satellites in orbit over the U.S., launched in April, 1974, and Westar-2 in October, 1974. Westar-C has been launched recently, giving capacity for 600 two-way tele-

studying the development of a system that will provide sub-scription TV service directly to millions of U.S. homes via satellites. The satellite TV service would offer several programme channels directly to small antennae on the roofs of subscribers' homes. Subscribers would pay a monthly charge that would cover the total service, including the use and maintenance of the antennae.

Potential

According to Dr. Joseph V. Charyk, president and chief executive of Comsat, the technology for such a system exists "and we are investigating the business potential for satellite-to-home TV services." This type of service is already being experimentally tested in Japan. while Canada and the U.S. have

For the future, the Comvice could be introduced as munications Satellite Corporation has confirmed that it is Federal Communications Commission approved.

The new service, with its monthly subscription and no commercial advertising, would be different from and not a substitute for existing commercial TV networks and local TV stations. Comsat's own interest in this field, said Dr. Charyk, had been spurred by technological developments in the satellite field, by the recent growth in the U.S. of Pay-TV, the continuing energy crisis which limits travel, the strong sales of home videocassette. recorders, large screen TV sets and home com-

Comsat is pursuing discussions with other companies, because development of a satellite TV service into people's homes will require collaboration with a variety of programme producers, satellite and antennae manufacturers and servicing organisations.

Michael Donne



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Access to seme programmes can be limited Access to same programmes can be limited to distribute subscribers, without treet for access to the home. This is particularly substitute for Pay IV on a per-channel basis, or provide or organizes can be provided to professionator specialist groups.

Pay IV is also available on a per-programme basis, with facility for senual billing included.

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Information provision and

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* Education

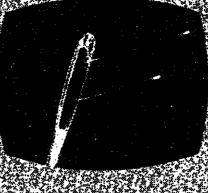
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The Hediffusion group of companies proceedings becausing commanication systems. The considerabilities pelietic elevation served to establish our expertise in the design elevation relevation assumest and the planning and operation of servers. We first affecting operated the first large system in Montreal by 1954 and currently our systems in Britain are available to 25, addionated systems with the following securior systems with the colors of the first large system with the servers of the communication securior with the securior securior securior securior systems.





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HAVE ODTICS

This declification wide-band system is seitable for fibre optics as well as seldifional cooper dable. In fact, we segreted transmission of television speaks over optical fibre cables because of their very small diameters, optical fibres provide a transmission which because reduction, which tiecomes significant on cable systems that: have a high capacity requirement."

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Telettra's Presence in the world of **Telecommunications**

ADVER I ISEMENT

Telettra, a major Italian telecommunications manufacturer, was founded in 1946 and belongs since 1976 to the FIAT group. Telettra itself is at present the most important manufacturing company with private Italian capital in the field of telecommunications. Telettra systems have been installed in 50 countries in the 5 continents. In Italy the company has 7 factories, with a total staff of 4,800. Since the very beginning of its activity Telettra has been an electronics manufacturer and as such it has given a valuable contribution to the development of fully electronic telecommunications systems, in the transmission, remote control and telephone switching fields.

The company's traditional policy of Research & Development, to which it devotes 15% of the turnover and 22% of its staff, has provided the technical know-how which at present supports the activity of five affiliated companies operating in Spain, Brazil, Argentina, Mexico and Norway. Most of the affiliated companies are run as joint-ventures with local capital share. The total staff of Telectra affiliated companies outside Italy is almost 2,000

In 1978 the total Telettra turnover in the world reached 200 million U.S. dollars, 60% of which is represented by sales outside Italy. Telettra Italy alone has reached a sales figure of 132 million U.S. dollars, 41% of which in the export market. Telettra's main lines of activity are the following:

-fully electronic, local and international telephone exchanges; low capacity exchanges for dedicated networks.

-telephone multiplex systems both analogical (FDM) and digital -relegraph and data transmission systems.

-radio relay systems (microwave and UHF), both analogical

-telecommunications systems for dedicated networks.

-remote control and supervisory systems

-telecommunications systems for military networks (fixed and movable).

---turn-key engineering and installation services.

The company's range of activity has been recently widened through the acquisition of the majority share stock of Autophon Italiana S.p.A. of Rome, producer of mobile and low expacity radio systems and alarm systems. Telectra skill in designing manufacturing and installing telecommunications systems, together with the high quality and reliability of its equipment and an effective commercial organisation, has granted the company a remarkable success in both the home and the export markets. Telettra's presence in the export market dates back to 1954 when a relephone network on open-wire lines was installed in Turkey. The present position of Telettra in foreign markets has been achieved competing with the most qualified international companies, both through the traditional export sales and the diffusion of Telettra's own know-how to the affiliated companies abroad.

Some significant achievements are represented by the awarding to the Italian company of major projects such as: the 1,700 mile radio-link crossing Siberia (U.S.S.R.) between the lake Baikal and Amur River regions, the radio-link between Saudia Arabia and Sudan including a 194 nautical miles (355Km) single line-of-sight hop across the Red Sea, the microwave national network of Argentina (Radio Global project) extending from the Andes to the tropic and the "Tierra de Fuego".

A recent awarding by P.T.T. of Sudan, upon international tender on a turn-key basis, covers the first supply outside Italy of a fully electronic international telephone exchange of Italian design and manufacture.

Unions' positive attitude eases labour pro blems

TELECOMMUNICA T I O N S Post Office Engineering Union system, — invented in 1889 and cations," prepared for a whole-workers have been brought (POEU). workers have been brought (POEU).
forcibly into the public eye in
the past 12 months or so by a
combination of strikes which
no longer have affected Post Office services and, less noticeably, redundancies as the telecommunications equipment manufacturing industry presses on with the modernisation sweeping the whole field.

The effects of the disputes workers are still being felt, 40 to 37½ hours—while not in particularly from the strikes involving computer and clerical staff, whose action had been a reduction in the engineers' working week from june with the union's target of a 35-hour week staff, whose action has halted the issue of all computer-pro-cessed telephone bills since

While for most subscribers, the effect during the dispute has been one of annoyance at their regular budgeting being upset and at the disruption the action caused to some computer-based telephone services such as the numbers of new subscribers not being listed with Directory conditi to being listed with Directory linquiries, the effects will as the obviously be principally felt post when the Post Office puts out six-monthly and then, very quickly afterwards, further three-monthly bills. The Post Office, worried at the difficulties such large hills might present to such large bills might present to many subscribers, has been advertising to persuade custo-mers to use telephone saving

For the majority of the members of the two unions involved in the dispute, the main issue over which the action was taken was pay, though for officials in the unions, in the four other unions in Post Office telecommunications and in the Post Office a more important issue in some ways was the Corporation's attempt to bring in what it terms as a pay "spine" for all 200,000 telecommunications workers.

The spine is designed to bring all unions in the business to a common settlement date, to allow the Corporation to begin a complex regrading exercise and to improve productivity. Some measure of agreement on the largest and most influential side of the Corporation, the tion.

The effects of industrial action by POEU members last year are no longer being directly felt by the public, or by the business community's operations, some of which were severely disrupted by the action.

For the POEU, though, the main achievement of the dispute—a reduction in the enant part of the union's response to the Post Office's planned introduction of new technology, particularly in the telephone exchanges, which some members of the union saw as a direct threat to their jobs.

The reduction in hours-still the most significant step within the trade union movement towards the TUC target of a 35hour week - is just one of the conditions listed by the POEU as the price of agreement to the Post Office's modernisation

Modernisation, the central issue for telecommunications workers, has brought the group, particularly those working in private sector equipment manufacture, to the forefront in a different way: instead of improving their conditions, some workers have seen theirs collapse into losing their jobs.

Plessey, for example, one of the Post Office's four major telephone equipment suppliers, has had to shape its workforce to fit in with technological advance and the Post Office's decision to replace the Strowger ment on the whole subject, "The recent TUC conference at Black the union reasons that man-electromechanical switching Modernisation of Telecommuni- pool, which adopted a motion power levels must gradually

ness, inflexibility, high main- annual conference three months ness, inflexibility, high maintenance costs and telephone
noise, still the backbone of
British exchanges — with electronic exchanges, and in partronic exchanges, and in partronic exchanges, and in partronic exchanges. ticular System X a modular a low demand for capital invest- private sector without compensasystem based on microelec ment and in recent years a static tion. tronics and allowing virtually or declining volume of business, continuous development and

improvement. jobs on Merseyside by closing factories at Speake and Kirkby, and followed that decision a year later by cutting 600 jobs at its main Edge Lane plant in Liverpool, publicly blaming the redundancies on a fall in demand for the traditional Strowger system and the change the less labour-intensive electronic equipment.

Warning

This kind of effect of techno-logical change stands as a grim warning to other telecommunications workers, and the response to modernisation is the one single issue that shapes the thinking of the unions in the field.

The Government's intention, for example, to separate the Postal and Telecommunications businesses of the Post Office, maintain telephone equipment though fiercely opposed by the or hiving off the particularly largest postal union, the Union of Post Office Workers, has the munications business to the support of the two largest telecommunications unions, the ranks firmly against it thoug POEU and the Society of Post for exactly the same reasons. Office Executives, on the grounds of new technology.

The POEU, in a weighty state-

whereas the telecommunications service is capital intensive, with In 1977 Plessey axed 1,800 a £1bn annual investment programme in technical advancement and an expanding volume. It argues with the Carter Committee's report in 1977 on the Post Office that "the present combined management has led to over-centralisation, poor delegation and slow decision-taking." The POEU firmly believes that the Post Office's telecommunications business needs to respond quickly and positively to sub-scriber and market needs, and that telecommunications man-

agement needs to take a strategic view of the fast-moving development in the industry without the additional responsibility of a postal business with very different problems. The union's response, though, to suggestions that the Government might be considering either breaking the Post Office's monopoly to supply, instal and

private sector has been to close ranks firmly against it, though Mr. Bryan Stanley, POEU

general secretary, made his union's position clear at the

letter and telecommunications manpower with the threat that the next further job opportunities to

He said: "We are absolutely determined to defend the Post Office's exclusive right in telecommunications because it provides the best possible service to the customer." He also said that if the telecommunications monopoly were undermined, the Post Office would be likely to have to increase its borrowing or put up its charges or reduce its programme of modernisation in order to try to offset the loss which would be invariably suffered by its business.

Such a positive approach to new technology might seem strange to those who have seen such implacable opposition as that, for example, of the print unions to the new newspaper production methods, but though the responses of the print retirement benefits, as well as unions and the POEU take pay, and has ruled out a one-off different forms, they are both package deal as it will need to based on protecting the interests

of the unions' members.

The POEU has faced and answered the question of whether the Post Office telecommunications business should only provide a basic telephone network whose rate of growth must eventually diminish as full penetration of the market is reached, or whether it should provide a new and expanding range of products and services, covering the whole field of telecommunications. If the former, must be a heartening one.

opposing the break-up of the decline; if the latter, current monopolies, and any hiving-off assured, with the prospect of

approach. The Corporation's forecast is that although the number of men in post will peak sometime this year, the decline over the next 10 years will only

be marginal. As a result, the union has concluded a new technology agreement with the Post Office, which in return for the union's willingness to co-operate with new technology guarantees job security for the union's 120,000 members over the 10 year period of the Corporation's forward planning.

The union has made it clear in its study on new technology however, that job security will only be one element of its price of agreement, together with adequate training for the new systems, sufficient job satisfaction, improvements on grading hours, productivity, leave and respond to the progressive flag-

of the technological changes. Though the price may be high, the union maintains it is fair, and for British management, growing wearily accustomed to seeing proposals for the introduction of new technology meetimplacable opposition, the positive, responsible attitude of the telecommunications unions to major changes in their conditions and working practices

Philip Bassett

Search for new markets

union in the telecommunications will at least match the competi-

WHO IS selling where, why and may have an entree to various 800 organisation whose holding mentary in digital switching. from Australia where its AXE how? Marketing strategy for countries because of national company is based in Holland. CIT-Alcatel has chosen to equipment has been chosen for issue was reached with the unions, but the final fate of the initiative rests on a special conference in November of the largest and most influential moving fast to offer a deal that

> network, summed up the situa-tion when he said: "In times when political situations change, one must be opportunistic. One has to be very well informed on all fronts." Never before has market

research played such an important part in getting contracts. Situations in some countries can company thought that its contract was a safe bet, can find itself out in the cold. It is easy to see why some

telecommunications companies do so well. Speak to the inter-national sales managers and mention a country. Immediately they will have the facts and figures to hand of the country's situation how many telephone lines it has and how many more it requires. Without doubt the market

place is becoming tougher all the time. Most companies look Simple to the Far East, Middle East. Africa and South America for their business.

Markets in Europe are usually the territory of the home manufacturers and have the situation has intensified. Because of the introduction of less labour-intensive equipment tries, manual methods could be and the resulting redundancies used. that have affected most of Europe, PTTs and telecom-munications administrations usually feel duty bound to use home-manufactured equipment. There are a few notable excep-

tions however, Finland being one. Finland has many tele-communications administrations for different areas. These are free to introduce whichever equipment they find suitable. In Holland, the Dutch PTT specified that it would use Philips PRX equipment and L. M. Ericsson AXE equipment, although no AXE equipment is yet in service.

The most recent and unusual exception to the home buying rule has been Germany. Siemens has enjoyqed a favourable position but the German Bundespost has invited companies to make presentations of their equipment. It appears that the only stipulations are that the equipment is digital and that the company has a German-based manufacturing subsidiary.
West Germany intends to have
a set up similar to that in

Holland, with two of the three preferred manufacturers and suppliers of digital equipment. Philips is hoping that its new digital equipment will be chosen at least for preliminary trials.

Markets outside Europe, for example those in Japan, the U.S. and Canada, are becoming equally tough for the home manufacturers. So much so that many have expressed a desire to get into Europe. While it is highly unlikely that they will have much success in the area of main exchange equipment for using the backdoor route of licensing customers' agreements for apparatus ' and

poration of the U.S., recently

moving fast to offer a deal that communications Systems) the expressed a desire to get into will at least match the competition. While some companies X, the British digital telephone actively engaged in doing so in network, summed up the situather with the main exchange business.

The company has placed a bid with the Irish PTT for the updating and expansion of the Irish network. Northern Tele-com is thought by some observers to be very well placed. The Japanese company NEC (Nippon Electric Company) is looking for European business. It too has placed a bid in Ireland analysis with a view to introducing its PABXs in Europe.

It is doubtful whether contracts such as the Saudi Arabian one will occur again and that is why inroads have to be made wherever possible, even if it is only with subscribers' apparatus. In an effort to get contracts and be competitive, telecommunications companies are offering various deals depending on the local requirements.

Mr. Sharpley says that they will most certainly be able to offer local production and training both in the UK and in the country concerned. Manufac-ture, he claims, is relatively simple and for developing coun-

He feels that BTS's advantage is in being able to offer a total network with exchanges that were not developed in isolation but are part of a family developed with collaborative

"Finance is of crucial importance," he says. "Government aid, loan interest loans are all a national situation." ever, he feels that the initia-tives have to come from industry. "If support is needed we must ask for it."

It appears that there are some people with a great deal of faith in the British System X over Approaches arrangements have already been made to BTS by several British merchant banks

In France CIT-Alcatel is getting quite a reputation for its tions market. In 1972 the company negotiated a deal with Poland which involved local production. Next year sees the start of production in Syria by the Syrian-owned company,

The same man, Yvon Ferrette, who is now director-general of Syrcotel, was also involved in getting local production underway in Poland, CIT-Alcatel is also quite happy to let those countries with local production of its digital ELO system export as well. The French have M. Norbert

Segard, Secretary of State for Posts and Telecommunications, as their international diplomat. When it is considered necessary, he will visit a country with a team of PTT officials to try to persuade that country to buy the public networks, some are French products. This does not necessarily mean pushing CIT-Alcatel equipment as there is also Thomson-CSF in the market with its digital range of MT Continental Telephone Cor- switching equipment.

At the moment the two acquired a stake in the Service companies are almost comple-

therefore not so well proven.

However, this happy balance cannot be expected to last since both companies appear to be committed to developing a full range of digital switching equip-

This is another example which Mr. Sharpley draws on to show BTS's advantage. As he points out, having three companles working with the British effort can be made which can therefore receive unified sup-

Philips' claim to same is that its system has recently been extended in Holland to 1m lines. The company feels that with this many lines in service for one PTT, the system is effectively proving itself. The company also has the advantage of being a member of the consortium that won the Saudi Arabian contract. While this is all very com-

forting, Philips, accepts that even with the demanding schedules for Saudi Arabia, it still has to look for further business. It is currently turning its eyes to Malaysia where a decision is expected on public network expansion before the end of the year.

Ericsson also has a stake in the Saudi Arabian contract but was recently disappointed in New Zealand when Japanese equipment was chosen for a long-term contract.

Ericsson was hoping to export

CIT-Alcatel has chosen to equipment has been chosen for develop the lower ranges of the network and where it also exchanges and Thomson has has a manufacturing base. Howdeveloped transit and gateway ever, the Japanese price was too exchanges although its products low even with the additional are newer to the market and costs of import duties from outside the country (the import duties from Australia would have been lower).

It is understood that the Japanese came to an agreement whereby they agreed to take an increased level of agricultural products from New Zealand. Naturally, companies operating within the EEC would not have. been able to offer such a deal,

Despite this, however, Mr. Paul Henson, chairman and chief executive officer of United Telecommunications, America's third largest telephone company, urges caution. He claims that the Japanese

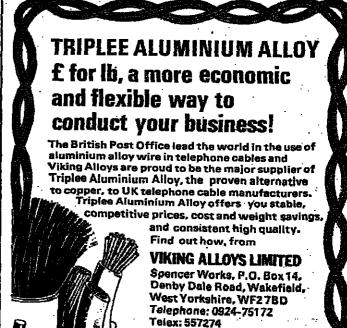
can sometimes underbid for the main part of a contract by as much as 20 per cent. If, however, there are additional equipments to be placed at a later date, these could prove proportionately more expensive.

South America is an area

where many companies through-out the world are looking and in some cases local productionis not a requirement. Some of the countries in

South America are fairly small and could not support a local industry since there simply would not be enough equipment required to keep the plant in business. In these cases, and for those who can remember how, its a question of going back to the old style contracts -just a straight sale.

Denise Clark Electronics Weekly



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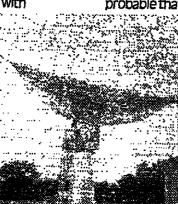


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inquais] Times The state of

AXE: the best digital switching investment for telephone administrations?

Here are 20 considered opinions.

Argentina

One digital exchange, serving 7000 subscribers, was ordered July 1979. Cut over 1981.

Australia

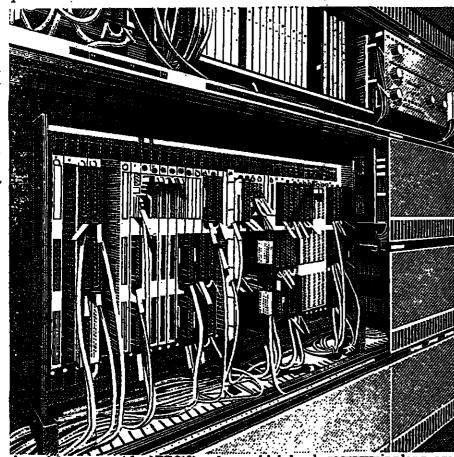
A system choice for the modernization and extension of the Australian telephone network. On the 13th September 1977 the Australian Government announced that L M Ericsson would be awarded the contract. A first exchange with a capacity of 4000 lines has been ordered. Future deliveries to be produced locally. About 1.5 million lines will be installed during the 80's.

Bahrain

A digital transit exchange with a capacity of 6000 lines was ordered in February 1979. Cut over in 1981.

Brazil

In 1976 Telebras issued a tender concerning a future analogue switching system. In February 1979 AXE was one of two systems chosen by Telebras for the future development of the telephone network in Brazil. Local production.



A special computer (the APZ 210) and a new high-level programming language were designed to meet the requirements of the AXE software package. As a result of this unorthodox approach, AXE software meets the needs of telephony staff, rather than computer specialists.

Colombia

After keen competition in an international tender 10 AXE digital exchanges (9 local and 1 transit) were ordered in January 1979. Somewhat later another local exchange was added. 100,000 subscribers and 7,168 trunks will be served. First exchange to be cut over in 1980.

Denmark

First ordered AXE October 1977. In total to date, three digital transit exchanges for 24,600 trunks and one digital exchange for 10,000 mobile subscribers on order. First exchange to be cut over in 1980.

finland

First AXE exchange ordered in March 1975. In service: one local exchange for 4000 subscribers and one transit exchange for 480 trunks. 19,000 lines on order for extensions. The local exchange was cut over in leptember 1977 and the transit exchange in April 1978.

ranc

In the 13th of May 1976, after an international tender for inalogue exchanges, the French PTT announced that IXE had been selected as one of two systems. The first exchange, with an initial capacity of 12,900 lines, was nanded over on the 28th June 1979. On order: additional 10 local exchanges serving 375,600 subscribers. Local production.

Italy

The first AXE exchange with a capacity of 960 lines was handed over in December 1978. On order: 3 digital transit exchanges with a total multiple capacity of 11,040 inlets.

Kuwait

Three digital exchanges for 30,000 subscribers were ordered in June 1977 after an international tender. Another tender resulted in an order for an additional 40,000 subscribers. Recently, extension for 40,000 subscribers have been ordered which brings the total up to 110,000 subscribers.

Madagascar

One local exchange, serving 20,000 subscribers, was ordered in 1978.

Mexico

Contract signed March 1979. On order: digital AXE equipment for 25,500 subscribers. Cut over 1980.

Netherlands

International tender concerning a system choice. Late 1977 it was announced that PTT had chosen AXE.

To date, orders have been placed for 7 local exchanges with a capacity of 18,944 subscribers. Originally the decision was for analogue equipment but has recently been changed to digital. First exchange will be cut over 1980. Three districts in the Netherlands, Rotterdam, Breda and Goes will be served by AXE.

Norway

First order in September 1978: 2 digital exchanges for mobile subscribers with a total capacity of 25,000 lines. The exchange in Oslo will start operation in 1981 and the exchange in Bergen in 1982.

Panama

First AXE ordered in February 1978. On order: three digital local exchanges with a total capacity of 10,000 lines. First exchange will be cut over in 1980.



Overall long-term economy was the main objective for the designers of AXE. The language designed by Ericsson for man-machine communication is a good example. It has proved so effective that it is now accepted as an international standard.

Saudi Arabia

A tender was issued in 1977 regarding the largest single contract in the history of telecommunications: an SPC system choice for the extension of the Saudi Arabia network. On the 25th of January 1978 a consortium consisting of L M Ericsson, Philips and Bell Canada was awarded the contract.

In addition to upgrading of existing Crossbar exchanges to Stored Program Control, L M Ericsson will deliver 21 AXE digital exchanges for 173,000 subscribers and 52,800 trunks.

The first five AXE exchanges were cut over right on schedule on 13th of December 1978. 6 months later 5 local exchanges (68,000 lines) and 7 transit exchanges (multi. cap. 33,120) were in service. Additional equipment for 105,000 subscribers and 19,680 trunks is on order.

Spain

The first AXE was ordered in December 1977. 3 digital local exchanges for 30,000 subscribers are on order. The first exchange will be handed over in 1980.

Sweden

The first exchange was cut over on the 1st of March 1977. On order: 10 digital local exchanges for 240,000 subscribers and 2 digital exchanges for mobile subscribers.

Venezuela

One local AXE exchange serving 5000 subscribers was ordered in May 1978. This exchange will be cut over in 1979.

Yugoslavia

First AXE ordered in January 1979. On order: 4 local exchanges for 30,000 subscribers and 1 transit exchange with a multiple capacity of 4320 inlets. Local production.



AXE was designed from the beginning to be completely modular in both hardware and software. This means that functions can be added, deleted or modified with minimum impact on other functions.

Today, the world's telephone administrations are faced with the need to make a rapid transition from analogue to digital telephony. The key investment decision is the choice of the telephone exchange system, since the exchange, once installed, has an economic life of many years. The exchange contains the intelligence of the network, and defines the possibilities for flexible long term development.

The Ericsson AXE digital switching system is considered exceptional in its ability to provide low long-term operating costs and outstanding versatility. By August 1979, just 30 months after its introduction, it has been chosen by 20 administrations.

Success like this is vital to any digital switching system. It means that AXE will be continuously enriched and developed, making it even more attractive to telephone administrations all over the world.

These facts contribute to making AXE a sound long-term investment.

The Ericsson Group



Telefonaktiebolaget L M Ericsson, S-126 25 Stockholm, Sweden.

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The remainder of the survey is devoted to profiles of some of the leading

companies in the field-from Japan, North America and Europe. The articles examine the companies' fortunes over recent years and outline the projects they are working on in this intensely competitive field. This section has been written by John Lloyd, Max Wilkinson and Elaine Williams.

Custom made

In an age when rapid communications are vital to meet modem business needs an efficient communications system is more important than ever before. The Telecommunications Projects Division of Burmah Engineering has successfully engineered, designed, managed and installed many major worldwide telecommunications, telemetry and instrumentation systems. Now besides providing communication systems services to industrial enterprises and utilities. TPD can supply a full spectrum of communication and allied systems foroffices, stores and factory premise

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Change of philosophy for American giant

and Telegraph Company—AT&T, or Ma Bell to most Americans—can be described at length in superlatives only. One panies, with a profit last year (\$5.3bn) bigger than most companies' turnover, sales (\$18bn last year) much more than most countries' GDP, nearly 1m employees, with a construction and market activities into three programme last year financed to major areas—business, residence ployees, with a construction the tune of \$13.7bn: these main statistics are enough to show that AT&T is enormous, dominating the American telecommunications manufacturing and in the competitive arena in more especially service scenes and thus an important element in the world picture, as well. The slight note of regret that

The giant, however, has its problems, and in the past year, as its chairman for eight years John deButts retired to make way for Charles L. Brown, the company faces a number of battles to keep its massive bulk straddling across every area of U.S. communications. Some of these battles appear already to have been won, after a period in which it seemed they could go either way: but the war is not over, and it is clear that Bell will at the end—if there not, most of Mr. deButts' reign ever is a clear end—be a little at the top of the monster less powerful than it was at its corporation was dedicated to beginning.

On its operating side, Bellwhich serves 85 per cent of all Americans—has changed its philosophy as it ploughs into its second century of existence.
"If universality of service was the hallmark of our first 100 service of a kind similar to that years." a company statement given to most European PTTs, issued last year read. "diversity was negotiated by the the hallmark of our first 100

AMERICAN Telephone of service will be the thrust of our second century. capability to sun-1 supply diverse services. Certainly the needs and expectations of business residence and customers vary widely." order to accommodate these perceived changes, the company has reorganised its operating and network, each with a senior vice-president in charge. This, says the company, "will enable us to perform more effectively which we now operate."

> may be detected in that last statement is perhaps due to the residual reluctance felt by many in the company over abandoning its role as the country's unquestioned provider of the telephone service—a private enterprise post office without the post and taking up the posture of competing with smaller, but aggressive, competitors much smaller—IBM and ITT are two of the major challengers). Reluctance or not, most of Mr. deButts' reign preparing it for the change from service- to competition-oriented company, a strategy which it falls to Brown to implement fully.

Bell's regulated granting it monopolies over

company's first chairman, Mr. Theodore Vail, 70 years ago. Mr. Vail not only welcomed the monopoly, he made it an efficient one. Mr. deButts, who agreed that monopoly was a good thing, nevertheless saw that the company could not retain it. He thus set in train what has been described as the biggest corporate reorganisation in history." programme will mean that over a third of the Bell system's 985,000-strong workforce will change their jobs in some way (even if only its title); that Bell will move into computing as a matter of necessity, since switches and terminals are now

Belief

In its anxiety to improve its face craft all at the same time: different kinds of industries for marketing, a skill with which it for while few companies can a brand new market," while the had not previously bothered, Bell first went into the marketplace itself, hiring salesmen market segment. from IBM, Proctor and Gamble Most people in and Colgate-Palmolive, in the obvious belief that those who that the major battle will be course."

integrally linked to computers; that the workforce ceases to

regard its job as purely as a

service, but rather as a sales pitch in a marketplace.

could sell soap could sell any-thing. The team is headed by computer manufacturer which Mr. Archibald McGill, a former IBM marketing vice president, who has developed a system approach to marketing some what similar to that practised by his former employer: that is, rather than sell telephones to customers, Bell now moves in to assess communications needs. then suggests a package. Symptomatic of the change was the scrapping of the old Bell siogan, "We hear you" in siogan, "We hear you" in favour of the more persuasive

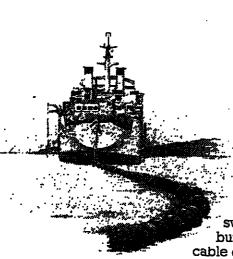
"the system is the solution."
This shift has meant that
Western Electric, the company's manufacturing subsidiary, has had to change from simple mass production of standard products to new ranges of styled phones, terminals, PABXs and the like. It is a hard task, akin to that faced by a battlecruiser fighting off attacks from aircraft, submarines and smaller surface craft all at the same time: match Bell's range, many can beat it in depth in a particular

Most people in and around competition for the entire Bell the industry agree, however, system

Other craft are bobbing along computer manufacturer which collision could well be a multicommands 60 per cent of the ple one. ITT, no pygmy, recently received FCC permisworld market. While smaller than Bell, with exactly half its sion to operate a long-distance sales and profit, and less than network linking 11 U.S. cities half its employees last year. while two much smaller com-IBM is nevertheless more propanies, MCI Communications ductive than Bell, more experiand Southern Pacific Communienced in marketing and argucations, have also received perably better at innovation. The mission to run services. As the competition will come as both microwave and, more importcomputer makers and teleant, satellite services come increasingly into service, Bell could find it hard to justify a creasingly find themselves marketing similar products monopoly. IBM itself has its Bell's Teletype subsidiary, for SBS subsidiary poised to offer example, markets computer terminals, increasingly successvoice and data links from next year and could attract a large fully (after years of languishing). Mr. John LeGates, presi-

The story of the contemporary AT&T, then, is inevitably the story of contemporary U.S. telecommunications. we have seen is changing: so is Bell, partly because it must, partly because it has anticipated the market signals. By the mid-1980s, it should be clearer what these changes have brought in their trainservice or worse?

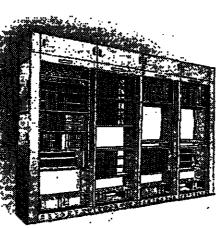
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1 - Capability

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submarine cables, a new success PABX range and the experience of Europe's biggest space communications manufacturer.



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2 - Experience

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and I million multiplex channel ends.



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GENERAL TELEPHONE and the Egyptian contract and Communications Electronics is number two and clearly sees its place in the Commission (which would repany has innovated in the past is trying harder. As the long-world as much more export-place the Federal Community year. It has opened business way second American telephone orientated than in the past, cations Commission) both communication centres as an and telegraph company in the Mr. Robert Gressens, made adequate substantive direction office-orientated counterpart to U.S. market, both as operators president of the company's and specific procedures to their domestic "phone marts," and as manufacturers, GTE communications group in 1976 assure that the interests of the as places where businessmen suffers from time to time from and charged with arresting the public as a whole are repre- can look round the company's something of an inferiority com- fall in profits, organised his sented . . . at least the FCC selection of business systems. plex. Then it remembers it is, division on an international after all, very large compared to most telecommunications and his oyster, if one increasingly electronics companies who are difficult to crack. not AT and T, and perks up. But it still tries harder, as

The company serves around 8 per cent of American telephone for us to address, but we hope subscribers (Bell serves 85 per subscribers (Bell serves so per that in the future equipment cent), which, as its chief will be sold more freely between scientist Dr. Lee Davenport states and we would be able likes to remind UK guests, makes to serve the whole European it as large a telephone operating market." company as the British Post Office. It covers a wide geographical area — much wider than 8 per cent of the country since many of its operating sub-sidiaries cover large rural tracts of Illinois, Kentucky, Michigan, Ohio, Pennsylvania and elsewhere. In all, it has 15 large and three small U.S. operating companies, together with three more abroad — in Quebec and British Columbia in Canada and in the

indeed it has to: its fortunes, now

Its manufacturing arm, Automatic Electric — bearing the same relation to the company as Western Electric does to Bell has plants throughout the U.S., and markets not only to GTE, but to other telephone companies including Bell — as well. The company has some 92 manufacturing plants (not all for telecommunications) in 24 states, and more than 50 throughout the world. Overseas, it has manufacturing plants within its communications products group in Argentina, Belgium, Brazil, Canada (19 plants in all), Italy, Mexico, Spain and West Germany. Its most significant telecommunications presence in Europe is in Italy, where its subsidiary GTE Telecomunica-zioni (with three plants) is one of the three large multinational subsidiaries (with ITT and Eric-

Dominican Republic.

cent of the Italian market. Although we are not concerned with it here, it should be noted that GTE, unlike Bell, is a general electronics as well as a telephone company, marketing consumer products (TVs are the main products), lighting equipment and specialist metals. The company has been hit hard by the sag in the U.S. TV market in the mid-1970s, coupled with Japanese and other Far Eastern competition: it has now recovered.

In the overseas markets, the company has been concerned with a contract in Iran, worth more than \$500m, which is described elsewhere in the Survey. At the time of writing, considerable doubt still sur-rounds the progress of the contract, suspended during the

The company is also part of the U.S. consortium bidding for

basis and regards the world as standard of "public interest,

In an interview earlier this year, Mr. Gressens said that he hoped that the company would apparently on the mend, have be able to attack the European been mixed in recent years. the past: "It is a difficult market that in the future equipment

Attitudes

In the less advanced markets -such as Egypt-Mr. Gressens has been concerned to change U.S. Government attitudes on forward financing to achieve recognition that U.S. companies are now competing with countries as well as other companies.

At home, the company has been much concerned with the regulatory wind sweeping through the communications power corridors, and has taken up a position somewhat akin to -one of cautious adaptation to the new mood, with a strong rearguard action to attempt to prevent what it feels to be an excessively competitive spirit, which might be damaging to the public it serves.

In a largely critical review of proposed new legislation on communications, GTE's chairman, Mr. Theodore Brophy, last year told the Senate subcommittee on communications that the Communications Bill then being considered was too vague in its wording and strayed from the concept of public service, which had been central to the 1934 Communications Act. most significant and pervasive failing of the Bill is its failure sson) and has around 14 per to set forth for the proposed

Regulatory had to act within the statutory convenience and necessity' here there is no Congres-sional standard having express

maker/operators

dent of the Centre for Informa-

tion Policy Research, was quoted recently (Business

Week, November 6, 1978) as

saying that "what's really

going on is a war between two

different kinds of industries for

vice-president in charge of

Teletype said in the same issue

that IBM was "the bignest

We're on a collision

example,

or judicially construed meaning without these guides, how could any reviewing court find any Congressional limits on CRC power? How can industry develop its plans with any assurance as to the future?" The concern manifest here is

a reflection of the position in which GTE and Bell find themselves: both comfortable in the role of providers of a public service, with their monopolies broadly preserved in the areas in which they operate: both believing that their way is the most efficient and cost effective: both meeting a strong barrage of scepticism, coupled with strong pressure from other large companies - ITT, RCA, even IBM - to move into their areas. Hence the two-pronged defence: gearing up for com-petition, and lobbying hard in Washington against the de-

At the same time, in this area it finds itself up against political problems once more, this time regulations which stop it competing, as it would see it, freely.

The problem is the familiar

one of the convergence of computers and telecommunications. Under FCC rules, companies marketing data processing equipment cannot market a system whose computer handles. for example, billing procedures as well as telecommunications The company thus takes a keen interest in the progress of Computer Enquiry II now being conducted by the FCC, and hopes its recommendations will modify existing legislation to allow it to develop more adventurous equipment. If the FCC does decide to take this line. GTE and companies will of course, meet the computer companies coming into the market from the other end — but it appears reconciled to that as the price of competitivity.

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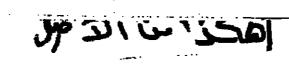
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THOMSON-CSF/CIT-ALCATEL

Crucial tests still to come

cations companies over the past three years.

And yet perhaps it is pre-mature to talk of success because, in spite of the rapid mounted, the crucial test for French ambition is yet to come. 'And so are some of the major stresses to which the industry will be subjected.

The test, of course, is whether the industry can achieve its long-term ambition of increasing exports to perhaps 30 per cent of production on the basis of its new computer-controlled

year plan runs out in 1980. This expenditure plan, and from a salesmanship, as happened in plan, announced in 1976, called company point of view, Thomfor FF7104.4bn to be spent. By son wanted to reduce its CIT-Alcatel staged a ceremony were to be installed in addition to the 7m in existence in 1975. By 1980, it was planned, telephones should be available to two-thirds of the population instead of to a quarter.

On the back of this heavy ordering programme, which has reached more than 2m lines a year, the French Government AXE exchanges from Ericsson. tion model to impress the was able to effect a re-organisa- In addition, it has now Egyptians.

Lion of the manufacturing developed its own MT-20 transit. The expensive combined industry with a breathtaking display of authority. It obliged International Telephone and Telegraph and L. M. Ericsson of Telegraph and L. M. Ericsson of trolled systems. Eventually, Egypt so that it can obtain some Sweden to sell out their main the MT system will supersede of the billions of dollars of French subsidiaries to Thom- the other two exchanges which orders which would be needed take the E10 with different types son-CSF, subsidiary of Thomson- are still produced under to modernise the Egyptian of system based on the very

Thomson, which had no pre-

OF THE outstanding system of exchanges. This new substantial domestic ordering Certainly CIT-Alcatel is the sidiary of the giant Compagnie Général d'Electricité.

needed some pushing from the equipment because, in spite of the rapid and decisive reorganisation mitment, but it also had strong which took place in 1976, the development of new products which resulted and the marketing effort which is now being mounted, the crucial test for pany of our size, the future for this year, Thomson manuracture its flow exchange with a capacity of 15,000 subscribers per exchange. This was scribers per exchange. This was s Government to take on this comdepended upon being in the telephone business," though he
added that the decision was
taken "with much reflection."

Thomson is still a long way were in service, of which 600,000
from achieving its ambition of were in France and 13
selling 30 per cent of its protaken "with much reflection."

Indeed, CIT-Alcatel estimates

Thomson was influenced by the munications companies, but to stalled in the world, CiT-Alcatel prospect that telephone switchsome extent against its main will have accounted for 1.2m products. And the major stresses will have to be faced in the much closer to its own main activities in electronics. From current boom of domestic orders starts to peter out.

Indeed, a period of uncertainty will start as the current five orders from a very large public expenditure plan, and from a salesmanship. The start as the current five orders from a very large public salesmanship. The start as the current five orders from a very large public salesmanship. The start as the current five orders from a very large public salesmanship. The start as the current five orders from a very large public salesmanship. The start as the current five orders from a very large public salesmanship. The start as the current five orders from a very large public salesmanship. The start as the current five orders from a very large public salesmanship. 1980. Sm new telephone lines dependence on exports which in Alexandria to celebrate the of its turnover.

As a result of the forced marriage, Thomson has taken also involved in this exercise over manufacture of the both in giving support and Metaconta computer-controlled advice to the Egyptians and in system which was being made waiving its right to the by ITT's subsidiary, Le Materiel exchange, which was flown out scriber exchange, both of which

In addition to the problem

heavy development costs and produced as long ago as 1970

Earlier this year, Thomson duction of exchange equipment in the export markets.

To achieve export sales it will On the technological front, against the foreign telecomthen accounted for 60 per cent establishment of one of its E10 all-digital exchanges.

exchange and the MT25 sub- political and marketing effort is part of an attempt by CITare fully digital computer con- Alcatel to gain a foothold in

vious experience in the public of integrating two different com- Government would allocate its of the 1980s will be smaller the formidable task of welding advanced system, Thomson has to be in head-on clash for a divergence taken on the familiar problem major foreign order is not yet aiming to harness new technoloof creating from the fechnology of having to run down product clear. Most probably discreet gies to improve its product. and the engineers which it took tion of the old electro-mechani- riethods would be found to over a new all-French, all-digital cal exchanges. In spite of the avoid the problem.

examples of the success of conglomerate was to counterfrench Government intervention industrial affairs is the development of its-telecommunications equipment development of its-telecommunications. CIT-Alcatel, submanufacturer, city-Alcatel, submanufacturer, city-A the capital investment needed and production on an industrial Thomson CSF may have to make the new types of scale started in 1973-74. By needed some pushing from the equipment. 1974, the company had started to manufacture its E10A exchange

> that, by the end of this year; out of a total of 2m lines of have to compete not only fully digital (time division multiplex) local exchanges in-

between space division and time division (analogue or digital) switching is not of great significance in its system, since it is modular in nature and can be than £2bn. The telephone authority was fitted with either.

However, it is clear that CIT-Alcatel, which boasts exports to Telephonique, as well as the at short notice as a demonstra- 12 countries, has established a very significant lead over at least some of its European competitors.

> The question remains whether CIT-Alcatel wil find it to have been an advantage to have been early in the field, or whether those coming behind will overystem. rapid advance of component Exactly how the French technology. Clearly, the systems



An ITT 6100ADX message switching system undergoing final tests. The system is used to send and receive typed information between locations any distance apart.

Concern with identity

MOST OF the U.S. International Telephone and Telegraph Corporation's business has lain outside its native country ever side its native country ever the international STC in the UK has an attitude equipment industry one French transfer, electronic mail, and medical records will be transfer to the international STC in the UK has an attitude equipment industry one French medical records will be transfer to the international state of the international state of the U.S. International STC in the UK has an attitude equipment industry one French transfer, electronic mail, and medical records will be transfer to the international state of the U.S. International STC in the UK has an attitude equipment industry one French transfer, electronic mail, and medical records will be transfer to the U.S. International STC in the UK has an attitude equipment industry one French transfer, electronic mail, and medical records will be transfer to the U.S. International STC in the UK has an attitude equipment industry one French transfer, electronic mail, and medical records will be transfer to the U.S. International STC in the UK has an attitude equipment industry one French transfer, electronic mail, and medical records will be transfer to the U.S. International STC in the UK has an attitude equipment industry one French transfer, electronic mail, and medical records will be transfer to the U.S. International STC in the U.S. International STC i since it took over the inter British national telecommunications Although that sounds, and is, husiness of another U.S. com-mpressive, it is of course a pany Western Electric more

> industry such as the ownership of the Sheraton hotels, ITT's ment which will replace the activities of multi-national comtelecommunications and electronics business remains the mechanical systems and, it is In recent years ITT has been company's single largest busi-ness—with sales in 1978 of more

Telecommunications accounts for about 40 per cent of the company's activities. In 1977 income from this sector rose 17 per cent in 1977 in spite of monetary restraints on some-European customers, rising research and development costs, and restructuring of its factories

to incorporate new technology. ITT has a very close relationship with its subsidiaries around the world but each subsidiary in the telecommunications field is

herently national in character. well-established companies such as Standard Electrik Lorenz in West Germany, founded in the 19th century. Standard Tele-phone and Cables in Britain. phone and Cables in Britain, However, when the French into Network 2000. This is ITT's with this progress under diffi-Standard Radio and Telefon in Government carried out its concept of how all types of cult conditions.

Sweden and Standard Electrica reorganisation — or rationalisa- information such as speech, com-

since its major customer in the struggle

UK is the Post Office. hoped, win export markets), ITT decided to sell off a minority 15 per cent of STC to

Concern

Plessey and GEC had often expressed concern that a foreign-owned company should be involved so closely in the Post Office's plans.

At the time of the shares sale, in June this year, ITT stated: "ITT believes that, where practicable, it is desirable for given considerable autonomy in its major telecommunications its activity, and each is in subsidiaries outside the U.S. erently national in character. serving predominantly local These subsidiaries include markets to have a degree of local ownership."

It already had adopted the same policy in other countries before selling its share in STC. tion-of its telecommunications puter data, electronic funds

company, especially Thomson group after a long is major customer in the struggle by ITT to retain control.

Today, despite interests outside the telecommunications industry such as the action of the post major contractors to the Post national identity of its foreign subsidiaries stems from Governside the telecommunications whom it is developing System X

In recent years ITT has been trying to lessen its dependence on its overseas subsidiaries. In the telecommunications field it gained an important foothold in the U.S. home market when, in January, the Federal Communications Commission gave the go-ahead for the company to set up a long-distance communications network linking business customers in 11 major cities including New York, Boston, Los Angeles

This challenges supremacy of American Telephone and Telegraph which runs the giant Bell telephone system in the U.S.

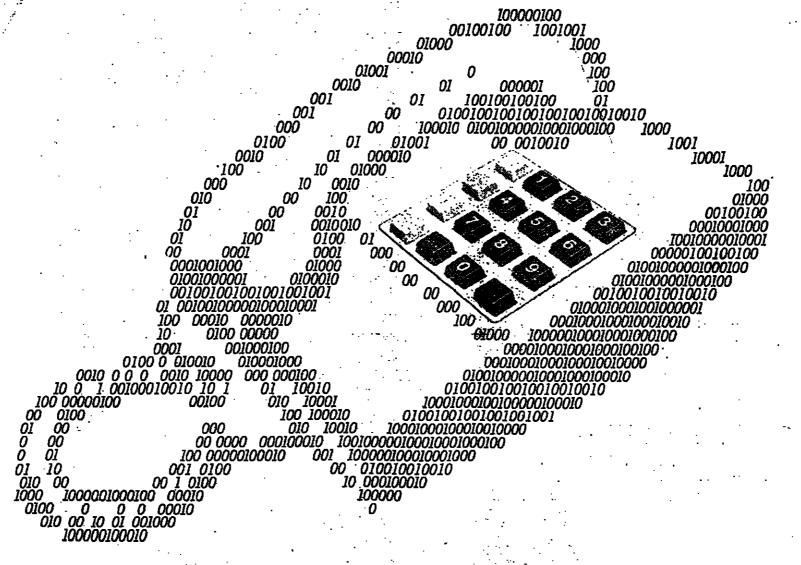
ITT is one of the leaders in telecommunications systems and plans that, eventually, all its generations of systems switching equipment will evolve

Towards the day when Network 2000 becomes reality it has developed System 12, which is a series of telephone switching systems based on digital tech-niques. The company claims they are designed on its pre-dictions of future needs where access to vasts amounts of information will be essential for human development.

It is becoming a race between telecommunications companies such as Philips in the Netherlands, LM Ericsson in Sweden, Siemens in West Germany and ITT to produce and successfully totally market

During 1979, ITT North Electric in the U.S. had plans to install digital telephone switching systems in more than cities, eventually averaging two a week by the end of the year. Between 1980 and 1982, System 12 exchanges will also be installed in Belgium, Italy, Denmark, and Spain.

ITT still looks set for new records in earnings this year despite pessimism about some of its overseas operations. Operating earnings so far this



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SIEMENS

Strategic advantages

IF. AS MANY people believe, muscle, tradition and a world-a shakeout is inevitable among wide presence Siemens possesses tend to become similar as com-tend to become similar as comthe European telecommunica- one other advantage over most tions companies. Siemens of of its European rivals and even Germany must be seeded as of some of its competitors in one of the likely survivors. the U.S. and Japan. That is the This mighty corporation is degree of its integration into a now the sixth largest outside wide variety of electronic techthe U.S., behind Philips of nologies which are rapidly Holland. Its sales in 1978 becoming more and more

totalled \$13.9bn, of which about similar. a fifth came from its telecommunications division. Telecommunications is its largest obvious in the way in which activity besides power engineer-computer techniques have ing and power station equip- become integrated into the Fettered ment (made by its subsidiary design of telephone exchanges, Kraftwerk Union).

Besides its long tradition stretching back to 1847. Siemens enjoys several important strategic advantages in the electronics and communication industries, which makes it an important contender in the manufacture of office equip-struggle for market leadership ment and peripherals such as struggle for market leadership

runs in its favour rather than computer. being an awkward crosscurrent, as is the case for ITT (International Telephone and Telegraph).

Orders by the Bundespost for switching equipment have been increasing from 1.5m lines in 1976 to 1.8m this year after the terrible slump in 1974 when orders fell to only 500,000 lines. In addition to a reasonably

healthy domestic market, where Siemens is easily the largest supplier, the company also has a substantial presence abroad, with a total of 40m line units of its EMD electro-mechanical exchanges in operation or on order. Siemens also has a wide spread of telephone equipment manufacturing plants in Finand, Bulgaria, Spain, South Africa, South America, the U.S. Pakistan, Australasia and else-

It therefore has a strong background on which it hopes to build an export performance for its latest range of fully-comexchanges,

But in addition to financial

are employed by the company in two regional

offices located in Riyadh and Al Khobar in addi-

tion to the headquarters in Jeddah. Four divisions

- UHF, VHF, and Mobile Radio equipment.

omni-present.

This so-called "convergence" of technologies is perhaps most

while communications. conversely, have become increasingly important in the design of computer systems. However, other types of convergence are now becoming

important. On the one hand, the advantage is that it is German. extent with the telecommunications one wave the arms industry and a the computer and to some extent with the telecommunications industry. and in some ways the most in are becoming so complex that Europe, and the tide of national individual components can now protectionism. Which is so comprise important subsystems strong in telecommunications, in a telephone exchange or a

Siemens traditionally has been strong in the manufacture of printers and other electro-mechanical peripherals. It has maintained its leading position and is a substantial exporter. At the same time, the company has doggedly kept its foothold in the computer and semi-conductor industries in spite of very substantial losses over the years from both operations.

Now, the company believes it is beginning to reap the rewards of its patience with both divisions. But more important, it is extremely well poised to take advantage of the expected further convergence of the different technologies.

This is likely to happen in, broadly, three ways. They are: first, complete systems, particularly in the private telecommunications market will incorcomputers, complex semi-conductor components and communications techniques. Second, the cross-fertilisation

of engineering; techniques between different disciplines is expected to continue to be important. And, third, the pro-

become ponents and computers become facturers.

Some of these trends will be slow, but then one of Siemens's great strengths has been that it will take a very long-term view. Its strategy appears to be to move forward with deliberation and force even if speed must be sacrificed sometimes.

Perhaps Siemens's greatest handicap in developing new products for the world telecommunications market has been that it has been fettered to the requirements of the Germansystem, and more particularly to the German Bundespost. The Bundespost's detailed involvement in specification and design

In both countries the insistence on extremely high-quality for the domestic market—often with a "belt and braces" approach to design-has often been incompatible with the approach to export markets costs and quality need to be more flexible.

need to work in co-operation with Standard Elektrik Lorenz (ITT's German subsidiary) have contributed to the relative slowness of the development of a puter control was unsuited to German contender in the inter-national race to produce fully systems. With some courage,

exchange systems started in study for a fully digital system

systems, that of the British Post Office lel paths. On the one hand the laboratories, and an exhaussystems are shrunk into com- over its own captive manu- there was the development of ponents and computers become facturers. the EWS-O and EWS-F (local and trunk) systems in which computers were used to control miniature electro-mechanical switches. At the same time,

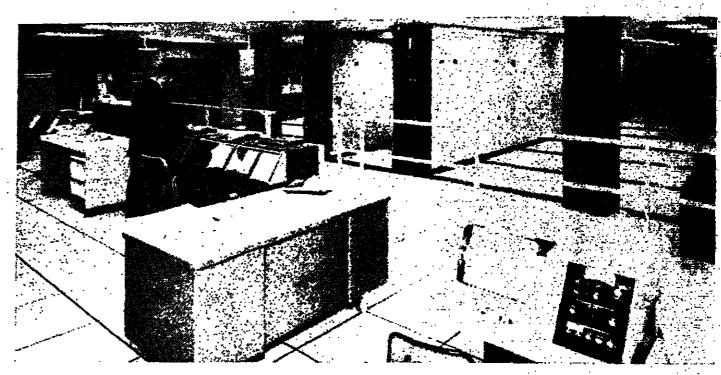
development work was proceeding on a fully digital system in which the electro-mechanical where the relationship between switches were replaced by miniature electronic circuits. However, as component tech-These restrictions and the nology advanced, and the im-

pact of semi-conductors including the micro-processor became more obvious, Siemens realised that its original concept of comcomputerised digital exchanges. therefore, it decided in 1977 to Work on computer-controlled start afresh with a new design

now beginning to emerge from fully digital exchange systems will be in production next year, and will replace the EWS analogue trunk exchanges. Then a fully digital local exchange will also be brought into pro-

After a period of relative secrecy and a great deal of anxiety, Siemens now, says it has ironed out the main problems of the system and is satisfied that it is stabilised. During the next 12 to 18 months therefore, EWS-D, on which a large part of the company's hopes for the future are based, will be evaluated by the rest of the

M. W.



A Siemens EDS electronic computer-controlled switching system for digital communications.

M. ERICSSON

i. Ericsson the Swedish-based telecommuni- contracts in 1977 and 1978. cations company, that having a relatively small home market September 1977, was a £320m has been a great advantage.

This idea might appear a little for odd to rivals in France, Germany or the UK, where a solid background of domestic orders should provide, in theory at least, the profitable base for new development and for search-

ing out new export business. the performance of L. M. Erics-son and of its competitors, particularly in the UK, shows that companies—and perhaps human nature—often defy that logic. Ericsson, particularly, appears to have thrived on Its international adversity. Its international business and undoubted technological success has been built, ploneering features. not on a profitable home market, but on the imperatives of sur-

Its strategy of penetrating world markets by a continuous and aggressive development of technology has made it one of the largest telecommunications equipment manufacturers, with sales, which this year are esti-mated to reach \$2bn and forecast a pre-tax profit of about

Of total sales only about 16 per cent come from Sweden. Just over a third come from the rest of Europe and just under a third from Latin America.

About half the company is de-voted to the manufacture of public telephone exchanges, with a further 13 per cent in the pri-vate telephone exchange and telephone instrument business. In addition to cable and transmission equipment, which to-gether account for about a fifth of output, the group also makes a range of military and other electronic products.

Ericsson is therefore much more dependent on sales of public switching equipment than most of its European competitors, which are almost all part of large groupings with diversi-fied interests in electronics and other fields. Perhaps the comparative parrowness of Ericsson's business, as well as its restless drive for overseas markets, accounts for its success.

Ericsson says that, in 1978, it installed 3.66m lines of local exchanges including those installed by licensees. In addition, it installed 1.5m equivalent lines of transit exchange. This puts Ericsson among the very largest manufacturers. In the U.S. Western Electric produced about 6m lines, ITT produced about 3m, Siemens of Germany, about 2.2m and General Telephone Electronics about 1.5m.

Ericsson's most important product is the now famous AXE exchange system which was the company's second attempt at developing computer-

THERE IS a theory among controlled network. The AXE the more tangled it becomes, The first announced

> order from the Australian PTT the development computer-controlled network. This was followed by spectacular £1.57bn contract which Ericsson won in a joint bid with Dutch Philips in Saudi

ng out new export business. Although the Australian con-A glance at the comparison of tract was smaller, it was of at least equal significance, for it followed the first detailed evaluation of AXE against competing systems by a large and expert telephone administration. Ericsson, certainly took its success in winning the contract as a vindication of its system which had a number of

Advantage

The principal advantage which Ericsson claimed for AXE was its modular design. This modularity was imposed on the system after an earlier and problem-fraught design which led to what Mr. Bjoern Svedberg, the president, called "spaghetti programming."

Spaghetti programming is an unpleasant phenomenon known to the designers of almost all the earlier computer-controlled exchange systems. It results from the fact that programmes controlling one function can become inextricably entangled with programmes controlling other functions. An alteration to one programme thus can create changes throughout the system, and the more the of its competitors, not: engineers pull at the problem have had to undertake.

To avoid this, an extremely

modular design structure was imposed on the AXE concept consisting of entirely separate functional boxes. These boxes could contain either hardware (electronics) or software (computer programmes), but they were allowed to relate to each other only in strictly specified

For this reason, Ericsson says, it is possible to make radical alterations to some parts of the exchange without altering the basic system. The system is (so to speak) interested in bow all function blocks behave but has no interest in their internal working.

This modular approach has proved particularly important in allowing flexibility between analogue and digital switching within the same basic system. Ericsson says that the AXE system was originally conceived as a fully-digital system. But at that time, in the early 1970s, digital switching was not economical, particularly for local exchanges.

An analogue switch was there-fore used for those customers who wanted it. However, the advantage of componentry and to some extent a change of fashion has now brought fullydigital switching to the fore. Now the great majority of customers have-chosen the digital version and several are in service.

In this way Ericsson has been able to move over to a digital switch without the need for a complete redesign which some of its competitors, notably ITT,

at the expense of ITT, for both the Australian and the Saudi Arabian contracts were won in the teeth of strong competition from the American conglomerate. And the rivalry between the two companies has a long and highly-charged history.

For almost 30 years, from 1932 until 1960, Ericsson was engaged in a tough and sometimes bitter fight to prevent ITT-from using its voting majority of Ericsson shares to exert control over the Swedish company.

The ITT shareholding aross out of a complicated series of financial deals in the 1920s involving the Krueger financial empire. When this collapsed in 1932 ITT became entitled to Krueger's majority snareholding in Ericsson.

Then, through a long and weary period of reconstruction and negotiation. Mr. Marcus Wallenberg, Ericsson's chairman for 24 years, succeeded in the dual task of putting Ericsson's finances on a sound basis and using legal and other means to keep ITT at a distance. Finally, Ericsson managed to buy out the

ITT shareholding.
These financial and political upheavals might not perhaps seem the easiest background for technological progress, However, Ericsson succeeded in the early 1950s in developing a new type of Crossbar exchange to replace the old rotary system. This design enabled the company-to establish itself throughout the world, and clearly laid the foundations for its later success with electronic switching.

M. W.

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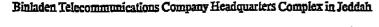
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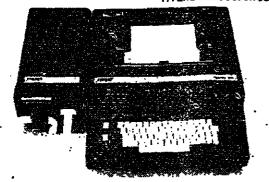
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PLESSEY

Hopes pinned on System X

trend, with sales and profits up last year and first quarter results in the current year also well up. After a period in the state funds. doldrums, the company's share price has picked up around 20p in four months.

The company, which is acknowledged to have considerable technical strengths, has nevertheless been thought in the recent past to be sufferng from stagnant markets and insufficiently aggressive sales-manship, and there are constant rumours-stoked by some of the company's competitors — of attempted takeover. It must be said that at the moment that prospect seems less likely than it has for some time.

Its electronic systems and microsystems and components divisions have tended to be more profitable than the telecommunications operation—the first of these showed a 27 per cent profit growth last yearwhile overseas companies, especially the North American subsidiary are buoyant. They now account for 14 per cent of the group's turnover and 32 per cent of pre-tax profits.

A major drain on the com-

pany's resources has been the Garrard record turntable sub-sidiary, which at its worst was recording an annual loss of over £5m. This year's loss is expected to be around film: the workforce has been cut from In telecommunications, the

company's major business, there have been large and costly problems, too. The company's factory at Edge Lane in Liverpool, which manufactures the electro-mechanical Strowger equipment for the Post Office, was turning in losses of £800,000 a month last year. After drastic staff cuts-1,000 workers from a total staff of 3,500 were laid off-losses are now down to £400,000 a month, and the company forecast last month that the plant would show a surplus over the second part of the current financial year.

The plant has attracted prob-

two UK companies which allegations of financial irregu-dominate the British telecom- larity, made by the MP for the munications manufacturing area in which it is located. Mr. scene, has shown mixed David Alton. A police report fortunes in recent years, though on the plant has been delivered it now appears to be on a rising to the Director of Public Prosecutions: meanwhile, the company strongly denies that any of the irregularities involve

> The recovery at Edge Lane is expected to be due to considerably improved terms obtained from the Post Office for the Strowger equipment - a margin of 13 per cent over the next four years. This contrasts with orders which were losing some 23 per cent of the sales value, taken at a time when demand was low and contracts were taken at virtually any price.

However, the company will not secure its future on the basis on electromechanical equip-ment, now being phased out by the Post Office (and most other

tions company has to endure in order to stay in the game in the 1980s. How is it doing so far?

First, it has stepped up production of the semi-electronic TXE4 system, largely for the Post Office (though some systems, under the name of Pentex, are exported): TXE4 earned the company £30m last year, nearly double the previous year's output.

Partners

Much more important in the longer term, the company is one of the four partners (with the Post Office, GEC and STC) in the development of System X. The first production orders from the corporation have been received. and production has already started. At the same time, the company has collaborated in the production of the prototype exchange which will be demon-PTTs worldwide). It must now strated at Telecom 79, in System X does not, of course, sey Telecommunications and be making the major changes Geneva, this month. The success exhaust Plessey's effort to stake Office Systems, and now includes

than its other two manufacturing partners: GEC, after all, has (private digital exchange). sufficient financial strength in which it claims-matching itself other areas to bear failure; while against the best-is more STC, as ITT's UK subsidiary, advanced than the equivalent could be expected to receive help from its parent. Plessey stands alone: and the comment made of System X—that it is UK telecommunications' last chance

Success, however, could mean that Plessey recovers its pre-viously important position in the export market-though not as a single company, rather as a partner. It has co-operated in the formation of an international marketing operation to sell System X abroad, and while details have still to be made nounced that the company advanced systems. Competition. clear, it is likely that some loss would enter thte office equipentailed.

PLESSEY, THE smaller of the lems of a quite different sort— every electronics/communica- of this venture is obviously much a claim for itself in the micro- a specialist office systems subsimore critical for this company electronic future. A major diary. The PDX will be the hub than its other two manufacture development has been its PDX of Plessey's office system, capagainst the best-is more product from IBM. The Plessey licence from Rolin Corporation exchange encodes all conversa-tions in digital "bleeps" (other on its back. systems use analogue or conventional electronic current to to break into world markets— mirror speech), and has been applies with poignant force to successful in UK markets. At the same time, the CDSSL to be marketed under the name "Monarch," has already been approved by the Post Office and

> worth £14m—has been placed. The CDSSI is also digital. Early this year. Sir John if it shows the same ability to Clark, Plessey's chairman, an-market as if has to develop of individual identity will be ment market; Plessey Telecommunications was renamed Ples-

the first production order-

able both of a communications function and of accounting. The PDX - manufactured under

Further, the group is relatively strong in the digital telex market, and has supplied equipment for the Post Office's new " packet switching "—the fransmission of data messagesmarket.

In sum, the company can take advantage of the future growth of the communications market however, will be tremendously fierce: and the company must still prove that it can live with

J. L.

SIT-SIEMENS

Political battles

ITALY, the telephone administration's wish to move nationalised after the 1939-45 towards a system of fully com- war, supplies about half of puterised digital exchanges has run into a thicket of political and industrial complications.

Even the fact that the country's largest telecommunications manufacturer, SIT-300,000 lines, SIT-Siemens is midable undertaking that the Siemens, has a German name relatively small compared with best use must be made of all but is owned by the Italian Government, involves complication. For it raises the question of whether the Italians should buy in new technology from abroad or—for reasons of national pride mixed with industrial politics—continue to trudge the long hard road towards the development of a truly national

Italy's requirement for telephone exchange equipment, which is now running at about 600,000 lines a year. With ment of a computerised annual orders of a little over exchange system is such a forother telecommunications com- the available panies in Europe, particularly engineering the multi-nationals.

that the development of its new been diversifying from its sucelectronic system of exchanges, cessful range of transmission called Proteo, is considerably behind that of some of its major European competitors. The first expected to develop a joint Proteo exchanges in service range along with SIT-Siemens. represent, indeed a staging post towards the eventual goal of a fully digital computer-controlled system using Time Division Multiplex (TDM).

Pulses

TDM is the method by which have to be adapted to the computer language of digital same circuit. Each conversation is allocated a time slot in sequence, during which a burst of digital transmission encodes a fraction of the original voice signal. These fractions are then all put together in the correct order to reconstitute the origi-

However, the first Proteo exchanges used a different system called Pulse Amplitude Modulation (PAM) and were not able to exploit all the advantages of the most modern computercontrolled digital systems.

The company is pressing ahead with the expensive and difficult development of the next generation of equipment which it hopes will be as advanced as that of its international competitors. The first terminal exchanges in the Proteo system went into service in 1977 after a period of development which started in 1970. A transit exchange is under test in Milan and several more terminal exchanges will be put into service during the next three years.

Dr. Georgio Villa, general manager of SIT-Siemens, says it

will not be uptil 1982-83 that the company has available a fully SPC (Stored Program Control or computer-controlled) digital system.

Italian Government officials are privately sceptical as to whether SIT-Stemens will be able to maintain this schedule. Telecommunications companies throughout the world have experienced difficulties and delays in perfecting the very intricate computer programmes (soft-ware) needed to control such systems. And there are questions whether SIT-Siemens has the technological muscle to push through its development programme to the tight time-table which is being dictated by increasingly fierce international

For SIT-Siemens, in common with every other telecommunications company, is anxious to obtain a slice of the world's export markets to offset the steep reduction inthe labour force, which the change over to electronic techniques would otherwise make necessary. Mr. Villa says he would like

to achieve exports of 25 per cent of total production by the mid-1980s. However, British, French, German and Swedish manufacturers all have similar ambitions, so that it is unlikely that there will be enough business to satisfy everyone. Speed in developing the new system is therefore extremely important. This is one of the reasons who SIT-Siemens recently concluded an agreement with Telettra, a

smaller company controlled by Fiat, which hitherto has made

SIT - Siemens, which was mostly electronic transmission equipment. As has happened in other

countries, the Italian Ministry of Industry has encouraged the link-up, because the developwherever they happen to be It is not surprising, therefore, situated. Telettra, which has equipment into the field of electronic switching, is now

However, SITSiemens has other possibilities, one of which would be a deal with General Telephone Electronics (GTE) of the U.S. which has an Italian subsidiary and has already developed a range of fully special requirements of the electronic pulses is used to in-terleave a large number of would be an advantage for both separate telephone calls in the companies and for the state controlled Telephone operating company. SIP, in having a common system between the two suppliers. Together SIT-Siemens and GTE control about 65 per cent of the domestic switching market.

Telettra has already held detailed talks with CTE which resulted in a technical co-operation agreement. It remains to be seen how this will relate to the hond betwee Telettra and SIT-Siemens and whether all three companies will eventually produce a common system for

These questions are given an

Siemens of Germany. The possielectronic resources. discussed. However, although a foreign

licence would certainly be the quickest, and probably the cheapest, way for the Italian company to produce a new system, it would certainly limit and perhaps altogether pre-clude the possibility of exports. For a company like SIT-Siemens, which employs 18,000 people, of whom 12,000 are in exports is of paramount importance. When all production is of electronic exchanges this labour force will have to be reduced by half or even more unless increased orders can be obtained from abroad.

Threat The threat to jobs in an

industry which currently employs about 60,000 people is one of the main recommend the main reasons why the Italian Government has to take a close interest in the future alignment of the companies, the Italians, particularly while In addition, the state sector is there is uncertainty about the the major customer for all the future strategy of SIT-Siemens. companies as well as controlling SIT-Siemens.

For this reason there has intriguing twist by another been considerable debate dur-possibility: that SIT-Siemens ing the past year, not only might go back to its former about how SIT-Siemens might German parent for a techno- relate to GTE, but about how logical licence. The electro- the two other multi-nationals mechanical exchanges which might fit into a realignment of SIT-Siemens still produces are the telecommunications manuall made under licence from facturing industry in Italy. Siemens of Germany. The possi- These two are ITT, whose subbility of taking out a new sidiary FACE has about 15 per licence to produce the new cent of the switching market, German EWS system of and L. M. Ericsson of Sweden, computer-controlled exchange whose subsidiary FATME, has equipment has certainly been 19 per cent of the market.

These market shares are stabilised by the fact that each company serves a different zone for historic reasons, and all of them have factories in Italy. from which jobs cannot easily be jettisoned.

For the time being, therefore, SIP has encouraged all these companies to develop their different systems for the requirements of the Italian hope that they will seek ways of reducing the number of separate systems. SIP and the Government have also put pressure on the multi-nationals to increase exports from Italy. and indred this tacitly has been made a condition of their

continuance on Italian soil. However, the Italian Government almost certainly will not take precipitate action against any of the multi-nationals, if only because it is anxious to protect employment. The technological strength of the multinationals is also an asset in

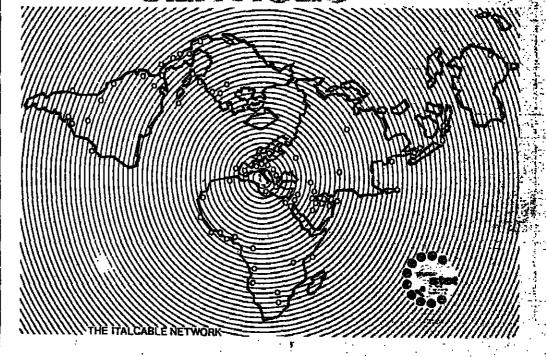


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The 1978 Annual Report underscores the continual increase in the Company's traffic volume - operating income went up by nearly the third - and this frend is orienting **ITALCABLE** to a threefold expansion of its

Intensification of activities is largely explained not only by ITALCABLE's collaboration with developing countries in setting up telecommunications systems but, importantly, by its growing commitment to cater at maximum technical level to the needs of highly industrialized countries throughout the world by creating increasingly diversified technologically sophisticated

In this way ITALCABLE is progressively implementing its operational policy based on world-wide expansion coupled with a constant updating of ex-





PHILIPS

Strong emphasis on research

cations has grown from only two per cent of the business PRX system. carried out by Philips, the Dutch electronics group, to

around 10 per cent.
Philips' history in the telecommunications industry began shortly after the Second World War when the Dutch had to carry out extensive renovation of their telephone network because of the severe damage it had sustained.

at the possibilities of making left totally unattended. The electronic exchanges in the electronic exchanges in the early 1960s, using the transistor manpower requirements will be and some measure of computer control. By the end of the decade it had begun to develop

OVER THE years telecommuni- a computer-processor-controlled range of exchanges called the

> In 1972 the first trial system was installed at Utrecht, with the co-operation of the Dutch posts and telecommunications authority (PTT) and by 1973 it was accepted for widescale introduction in the Dutch net-

f their telephone network since then the PTT has exause of the severe damage had sustained.

The company began looking little maintenance and can be left totally unattended. The one quarter of its present level which means that Philips had to to look after all the electronic fund the entire project itself

equipment for the Dutch telephone network, but the PTT has been looking around for an alternative supplier believing that dependence on one company is not sound commercial sense. It chose L. M. Ericsson as a second supplier and Ericsson will be providing its AXE system of electronic exchanges—though its first one will not be in service until 1981.

Unlike many counthies, the PTT has not paid towards the development of the system. and so has tried to ensure that

So, too, the need to move out

Northern Telecom has got its

message well rehearsed: it now

needs the markets to hear it.

For a long time Philips has markets for its equipment exist communications systems more been the monopoly supplier of outside the Netherlands. So far its PRX system has

been installed in Jersey, Indonesia, Brazil, Peru, Saudi Arabia, and Aruba Island, in the Caribbean, accounting for sales of nearly 100 exchanges.

The latest development of the PRX exchanges have been the production of a digital system which uses micro-processor and very large-scale integration techniques. The first of these is being installed in the Dutch network and will go into service next vear.

However, Philips believes that large parts of the tele-communications network will remain analogue for a long time that digitisation must follow a carefully-prepared plan. Otherwise, the telephone authorities could make their networks worse, not better, for their subscribers.

But Philips is also looking very earefully at the techniques of the future. It places a very strong emphasis on research and its research organisations receive finance which makes them independent from the product groups or division they serve. The company estimates that about 1.3 per cent of its sales revenue is set aside for finance.

of the comparatively flat Canadian economy into other markets, especially the U.S. It is actively investigating all the latest developments in telephone technology such as optic fibres, and viewdata information J. L. systems as well as seeking ways to make the present tele-

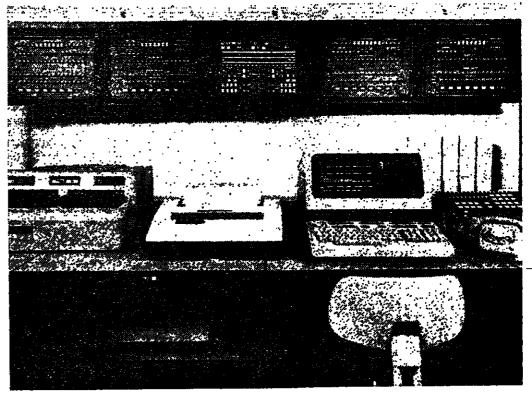
For example, over the coming years information such as computer data, pictures and speech will all be sent in digital form. While suitable digital transmission methods have been developed for conventional telephone cable and optical glass fibres, no efficient methods exist for digital transmission via radio links.

The problems have been that digital information takes up a lot of the available bandwidth in simple terms, the transmitting space—which is a very wasteful use of the limited and congested airwaves.

Philips has been working on the design for a different system of transmitting the information in digital form which occupies a very narrow bandwidth and makes more efficient use of the frequency bands. It is called "tamed" frequency modula-

In all Philips has about six research laboratories, based in the UK, France, Germany, Belgium, the U.S., and its major operation in the Netherlands employing over 2,000.

Telecommunications is just one of about 13 separate product groups' which make up the activities of the organisation. But Philips is trying to ensure that it remains in this field despite the problems which exist in the industry.



A Philips telephone network. At the top are two central control unit pairs with the system control panel in the middle. Below, from left, are a control tape cassette unit, hard copy line printer, VDU and transportable test panci for entering command instructions

WORLDWID

NORTHERN TELECOM Rapid expansion

the company's systems division,

NORTHERN TELECOM is A second pair of acquisitions, housing for the telephone, and Canada's major telecommunica- also in the U.S., was made by becomes an opportunity for tions manufacturer and is increasingly shaping itself into NT Systems Corporation, an international force. It claims to be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be the second largest manufacturer in the U.S. (though it is not be is probably second equal with GTE) and fifth or sixth largest in the world. It is one of a "tricorporate family" (as it describes them) of companies, whose other two principal mem-bers are Bell Canada, the parent operating company, and Bell Northern Research, the research and development organisation, on which the company places much stress.

The company has almost 100 years of history behind it—it began in 1882—and now has 27 manufacturing plants in Canada, subsidiaries in the U.S. with 23 plants, two factories in the Irish Republic and one each in the U.K. Brazil, Malaysia and Turkey. It is growing strongly—sales in 1978 were, at C\$1.500, \$250m, \$250m up on the proving year while the profits previous year, while the profits of \$100m were up by \$15m on 1977. The company's chairman, Robert Scrivener, told his share-holders that much of that growth was, and would continue to be, abroad: " As we have forecast for the past several years, Canadian sales continue to drop as a percentage of telecommunirations manufacturing sales, The continued expansion of our U.S. and international operations will mean an even more significant proportion of our sales will be made outside Canada in the coming years. This, even though we expect our Canadian operations to grow substantially over the next five

Markets

Much of the foreign activity to which Mr. Scrivener refers is centred on the U.S.: he remarks elsewhere in his report to shareholders that in Europe, as in other markets, sales were small because procurement and technological decisions are often made to meet national industrial development policies rather than the more familiar criteria of technology, quality, reliability and price "—a tactic of which Mr. Scrivener disapproves: however, the sales

foreign effort on the U.S., and has intraced at foreign effort on the U.S., and has evel programme aimed at level programme aimed and private exchanges: and Eastern Data Industries with its subsidiary. Spectron subsidiary, Spectron, which manufactures equipment to test and monitor the quality of data transmission. Both companies, especially Dangay, grow rapidly: while the previously-acquired Cook Fleetric Company of Cook Electric Company of Chicago saw sales and profits grow by 21 per cent and 66 per cent respectively.

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Ann Arbor, and Data 100, of Minneapolis, both with a strong presence in the distributed information processing terminal market. The company sees the acquisition of these companies as "an essential element in the creation of a corporation that will be a leader in the clearly identified trend of a coming together of the telecommunications and data processing tech-nologies —a theme on which the places strong emphasis. In the all-important area of switching the company has marketed for the past eight years the SPI computer-controlled electronic exchange. which helped bring computer-control techniques to smaller

town and rural exchanges both in Canada and in the U.S. NT is even prouder of its DMS digital switching range. announced in 1976 and claimed to be the "first telecommunications manufacturer in the world to publicly commit itself to firm introductory dates for a complete ime or digital s and transmission systems." The range goes up from the DMS 1, with as few as 32 lines, to the DMS 100, with as many as 100.000 lines, designed as a central office switching system.

In the past year, the DMSIO, with a capacity from a few hundred to 12,000 lines, has received a welcome in the U.S. independent operators market, one which is crucial for NT if one which is crucial for NT if it is to grow and succeed with its new digital family. It also notes that its private business communications system, the SLI, doubles its shipments to the U.S., while also selling in Europe, Asia, the Middle East and Latin America.

and in research and development, are the company, together with ional Beni-Normera Research, is increasing its stake. It spent over 40 per cent on the previous year: it plans to spend \$135m in the current year, more than \$,000—one in every nine—or its made in Western Europe are employees are engaged in remother beach head in what we consider to be one of our major. Over the past year, then, the company has concentrated its tance; and nas initiated a high-foreign effort on the U.S., and bas seen strong growth. Operating through its subsidiary,

This strategy, together with This strategy, together with the pattern of acquisitions, are in turn part of a greater plan which the company gives the generic name of the Intelligent Universe." The concept is by no means unique to the company — indeed, every advanced communications company shares in it and uses it as a backdrop to its decisions: NT is unusual in the stress it lays upon it, presumably designed. is unusual in the stress it lays upon it, presumably designed both to imbue its workers with the idea and to introduce it to its customers. At times it reaches quasi-messianic fervour in describing the end product of this universe—"since all systems in the Intelligent Universe are electronic, the distinction between the basic elements, computers and teleelements, computers and tele-communications, begins to disappear as the Intelligent Universe evolves. Systems be-come increasingly similar in function and design: equipment similar both in what is done and how it is made. Eventually computing, data processing and communications networking be-come a meld of very similar and compatible equipment."

Thus the theory behind the practice: the reason for the acquisitions, which in turn dictate a search for an everwider world market. A concentration on telecommunications manufacture has given way to the need to acquire expertise the need to acquire expertise in and the capacity for data processing. The office has ecased to be merely another **EXTEL INTERNATIONAL CORPORATION**

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NIPPON ELECTRIC

Bid for major contracts

THE Nippon Electric Company and other facilities in eight. The company is carrying out computers and communications is largely instrumental in more. There are 60,000 em- a financial analysis of the networks, and solid-state highmaking the Japanese as keen competitors in the telecommunications field as they are in cars and consumer electronics.

In the past few years, the company has made it clear that. it means to bid for the major contracts throughout the world, that it has a strategy for entering the rich American market, tions are intended to play a swing towards satellite and that is one of the leading—if higger part than at present in microwave transmission, not the leading—company in the Nippon Electric's affairs, which especially in developing countries. world for satellite technology means that the company will be and for micro-wave stations, and still more competitive in the that it will be a prime mover in world the group of Javanese companies market, especially on price. which are deliberately attempt Japan's economy is not expected ing in concert with the Japanese to pick up markedly, as those ing, in concert with the Japanese Government, to take on IBM.

Nippon Electric has been in existence for about a century, and was built up again after the 1939-45 war with the aid of the Bell subsidiary, Western Elec-tric (with which it is now often in fierce competition). Since the mid-1970s the company's fortunes, while on an upward trend, have dipped and surged: down in 1975 and 1976, very strongly ahead in 1977, ahead again in sales last year, with a dip in the rate of profit.

Last year's sales stood at \$3.3bn, up from \$2.9bn in the previous year; profits were \$63m. down from \$94m in the previous year, a company record. Mr. Koji Kobayashi, the company's chairman, said sluggishness in the Japanese economy, the rapid appreciation of the yen, foreign worries over the increasing trade imbalance between Japan and the rest of the world, all contributed to the slippage in the 1978 surplus.

mitting the company "to expect a reasonable increase in sales volume in fiscal 1979."

Nippon Electric moved strongly ment should be placed. It is volume." into export and overseas markets possible that it will upgrade its in the late 1950s, initially with plant in Ireland, but that is direct exports, but gradually apparently thought an unlikely changing over to direct invest- option. ments in plant and affiliates.

These international operastill more competitive in the world telecommunications of Europe and the U.S. are, and so these parts of the world will become, even more, prime

In the U.S., the company's sales have gone up despite the rapid rise in the yen: the company has opened a manufacturing subsidiary in the suburbs of Dallas, Texas, to manufac-ture electronic PABXs (private automatic branch exchanges)and in Lexington, the company opened a wholly-owned sub-sidiary named NEC Information Systems to market computers and peripherals. The third company in the U.S. is NEC Microcomputers, which expanded its sales in 1978, too.

In Europe, the company so far has been less successful than in the U.S., though, in common term to express the marriage with other electronic and com- of computer and telephone, munications companies, it sees Europe as a prime area for growth in the next two decades. Kobayashi forecasts "a moder- semi-conductor plant in Ireland to expand even further and

However, there are continuing provides. strong indications that the company is about to make a switching systems are now on The company is now fully major push into the European the market, computers with as it does that computer tech-multivational: it has 36 plants semi-conductor market, of which communications capability are nology and communications and 50 sales offices in Japani. Japanese companies at present in service for distributed procomplemented by overseas take only \$25m in a market cessing requirements, a variety
affiliates operating 13 plants in countries, with marketing \$1,5bn in 1978.

This countries in largest communications capability are technology can no longer be single one. Even this under automation systems capable of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world single one. Even this understance of the more world one of the more of

Elsewhere in the world, the company has profited from the tries. In the past year, it has sold microwave stations to Brazil, Algeria, Egypt Ghana and Zambia, and had satellite earth station orders from Colombia, Guyana and Uganda. The Algerian order will be a particularly arduous one to complete, involving as it does the construction of a 1,200-mile microwave link across the Sahara Desert, with 62 repeater stations making up the link.

In Japan. the company is the prime supplier of all sorts of equipment to NTT, the Japanese PTT, including a joint project of 11 miles of fibre cable. It is also a major supplier to NHK, broadcasting the Japanese system. Nippon Electric has been a leading participant in ambitious scheme. beginning this year to provide a high-capacity mobile telephone system which is aimed at accommodating 1m subscribers.

The company has its own of computer and telephone, which it sees as its guiding philosophy—it is "C & C." standing for computers and

"Our digital electronics

ployees, many of them overseas. European market to determine integration micro - electronic Like many Japanese companies, when, where and if its invest- devices are manufactured in

> In a high-level seminar in Dallas earlier this year, Mr. Kobayashi, whose company was demonstrating a voice-activated computer, said flatly that C & C would revolutionise office and factory production before the end of the century.

> More immediately, Nippon Electric is in the front line of a co-ordinated, "Japan Incorporated" push into computers, in which MITI, the country's trade and industry ministry, leading plug compatible house Fujitsu, Mitsubishi, Hitachi and - have sought develop Japanese ways of beating IBM (IBM still holds around per cent of the Japanese market).

The houses have amalgamated into two groups — Fujitsu/ Mitsubishi/Hitachi and NEC/ Toshiba, the first moving into the IBM plug-compatible market (it has linked with Amdahl, the leading plus compatible house in the U.S.) while NEC/Toshiba took the same route as the UK company ICL, by developing their own line.

However, all five companies collaborate on joint research into the MITI project for research into Very Large Scale Integration (VLSI) with the aim of putting even more components on a sliver of

The project has been met by between Japan and the rest of It has sold telex equipment in communications. In a statement a good deal of alarm from U.S. the world all contributed to the Greece. satellite communications in Austria his shareholders that he semi-conductor manufacturers, in the present year. Mr. and the UK, and has a small expected "the C & C market whose aggressive technical skills of the communications in Austria his shareholders that he semi-conductor manufacturers, whose aggressive technical skills of the communications. In a statement a good deal of alarm from U.S. the world all contributed to the Greece. Satellite communications. In a statement a good deal of alarm from U.S. the world all contributed to the Greece. Satellite communications in Austria his shareholders that he semi-conductor manufacturers, whose aggressive technical skills in the present year. Mr. and the UK, and has a small expected "the C & C market whose aggressive technical skills in the present year." and salesmanship have swept the world, and who now see the ate recovery in Japan's economy —but it wants further expan- offer new opportunities for the the world, and who now see the in the immediate future," per sion and so far has not found it. type of products the company Japanese gearing up to do like-

Nippon Electric is a prime mover in this thrust, believing

GEC

Steady growth

communications is dominated by may be said for many of the three companies—the General overseas companies. Only the Electric Company (GEC), Plessey and Standard Telephone and Cable, the UK subsidiary of TTT. The biggest of these is industrial division (diesel engines, locomotive stock, electronics company by far, and also its largest private employer outside developments in the (155,000 in the UK, and some communications market. 27,000 overseas).

The past year saw another period of steady growth—sales were £2.5bn, nearly £160m up on the previous year: profit after tax, at £220m, was more than £60m up on 1978. The company has interests spanning the range of electrical products -it makes TVs and other consumer electronic products, lighting of all kinds, specialised integrated circuits (and will soon, in alliance with Fairchild of the J.S., go into mass IC production), heavy power plant, measurement and control instrumentation, space and defence equipment, wire and cables, gas turbines, mobile radios, diesels, and, of course, telecommunications equipment.

Spread

This spread of interests means that the company does not, as do Plessey and STC, rely heavily on telecommunications: however, the importance of the telecommunications division has been underscored both by the company's move into high-volume IC production—tele-communications is a major user of chips—and by the acquisition of the U.S. office equipment company, A. B. Dick: Telecommunications, as we have seen. is the base technology for the "office of the future." Thus, ten years after GEC in its present form was created, after a merger of the company with English Electric and AEL GEC must once more make big de-cisions about its future, especially in the communications market.

The main GEC divisions and ineir 1978-79 turnovers are shown on the accompanying table: it can be seen that the contribution made by the telecommunications division — in which electronics and automa-tion are included—is the largest

THE UK home market for tele- tions market, while the same generators, gas turbines, switchgear and transformers) and the industrial division (diesel

> The consumer electronics division, where performance has been least satisfactory, is still largely outside: but the convergence of TV and telephone technologies through Prestel points to developments in consumer electronics which are already generically known as "home of the future, which the TV set takes pride of place as a medium not just of entertainment but of education, purchasing, domestic device control, security and possibly even exercising the voting right as well. GEC's TV division since last year has been largely run by the Japanese company Hitachi, under a joint arrange-

Like Plessey and STC, GEC Telecommunications has gone through a lean period in recent years, both because of the falloff in orders from the Post Office (now increased once more) and because of the transition from electromechanical equipment to semi- and fully-electronic exchanges, which is continuing, a move which has encouraged The profits in telecommunications recovered from a dip in the previous year to exceed the level set in 1976-77: deliveries of the large semi-electronic exchange, TXE4, were stepped up: and orders over the past year were around £200m.

ket, the company has intro-duced a business communi-SL-I, which can be linked in to display screens and computers, vealed officially, came to noththe same time, the company favour of it, but problems over-manufacturers the Post Office the status of STC and doubts standard customers digital sub- from Plessev were understood scribers' system (CDSSI), which it sees as complementing the SL-I "to give an all-product range covering up to 7,600 it seems unlikely that GEC will extensions and provides the make a bid for either of its

1979 197a Industrial
Electronics, automation and tele-Consumer products Associated companies Overseas
Subsidiaries
Associated companies Other activities and items Interest receivable, less payable ...

Source: GEC annual report 1879 (includes inter-group sales).

Also in line with the other tions of industrial or economic companies, the telecommunicaviability). tions division has much riding on the success of System X in the export markets. The company has expanded its commitment to System X over the past year, and now has the first ex-changes in manufacture. Though little is known of the development of the system (whether at GEC or anywhere else). it appears clear that, first, the Post weight behind its development, reflecting strong managements a move which has encouraged . . . (it) . . . has a major com-

Office has thrown a good deal of the manufacturers; and that, second. major differences between the three manufacturers remain, and could threaten to disrupt the co-operation between them and the Post Office which presently exists.

In the business systems mar- Postructure

An attempt to restructure the cations system known as the telecommunications industry, made his the National Enterprise the electronic typewriter, visual Board last year but never reand which is fully digital. At ing: GFC was reportedly in to stand in the way of success. Speculation of widescale reorganisation has now subsided;

Turnover

Profit before_

For the future, the company, appears relatively strongly placed; extremely strong within the UK economy, and arguably. in the major league worldwide though, in terms of turnovernear its foot). A recent authoritative review by stockbrokem; Laurie, Millbank of the UKelectronics scene concluded on GEC that "the company has an excellent record of achievement

mitment to areas with growth potential over the long-term we are optimistic about the future for the electronics, automation and telecommunication division in the overseas-markets where GEC operates we would be most optimistic about plans for growth in the

In the past year, the com-pany has formed joint ventures with Hitachi and Fairchild, bought A. B. Dick and seems likely to buy Averys, the weighing machine company, now that the proposed hid has been cleared by the Monopolies Com-mission. With cash assets of around £700m, GEC can clearly: afford to shop around furthern the U.S. appears to be the preferred geographical area: while: communications must be the preferred sector. We can expectfurther movement from the giant in the next 12 months.

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Plastics' salad days are over

THE EUROPEAN plastics right up to the early years of ndustry has spent the last few this decade and they were struggling wereapacity, weak prices and demand.
ising costs: it is now having to The are the added strain of coping Chemical Industries, which pro-sith the onset of middle age. duces three of the five major world was its oyster are fading alts back: From now on it is oing to have to work that nech harder to stimulate sales maintain its position in the

There are a number of ways in which chemical companies try to deal with the an try to deal with the lew-found maturity of the nituatry. In the short-term they can attempt to boost market shares by cutting prices -although the greater part of the industry is praying that noone will take this particular option. Looking further ahead. they can concentrate on iteamlining their businesses and on making production

processes more efficient. Another approach is to start nvesting substantially larger ams in research and developnent in the hope that a better roduct will tempt new ustomers and arouse fresh nterest in old ones. plestics producers could even Noose to go one step further use branch out into speciality moducts. The disadvantage to tak is that it requires heavy apital spending on new plant. There are signs that the nation plastics companies are binking along slightly different lines in planning for the next ire or 10 years. The only thing they are all agreed on is that they have to come to terms with the fact that their intustry's salad days are over.

For many years the industry's

market growth depended

targely on substituting plastics

for traditional materials such as

wood, glass and steel. Obvious

and bargains

takes place.

industrial companies can spend six months a year negotiating,

from start to finish, "free col-lective bargaining" claims. This

compares with six to eight weeks

settling Phase 1 and 2 "wages

reduces the remaining time

policy" claims locally.

.....

industrial strife.

Economic Adviser.

Burge and Co., 25. Worship Street, EC2.

Employment

any government statistic.

A high proportion of young-

indifferent schooling and

sters are unemployable because

A. G. Horspail.

fiction

From Mr. G. Bowcy

..... 514"

(Source: Health and Safety

395

The youthful days when the ast as growth rate in demand

polymers, says demand for polygrowing at an annual rate of 12.5 per cent during the early 1970s while demand for low density polyethylene-LDPEwas increasing at an annual rate of 16 per cent. Demand for international market place. polypropylene was rising by a thumping 25 per cent a year.

for polymers slumped It has been building up again

of the chemical majors now expects demand to grow consistently at the rates of earlier years. They are well aware that ladies of a certain age have to slow down a little. Yet they are by no means filled with despair by the outlook for the next four or five years—despite most of

Nearly all of them stress that while most of the obvious substitutions for traditional materials have already been made, the possibilities are far from exhausted. They add that the current oil crisis is certain to boost demand for plastic simply because it is so much lighter than metal or glass and therefore more energy

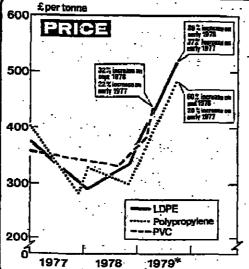
efficient. The Shell international group

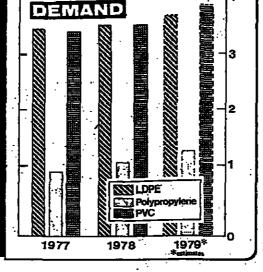
-with reflected in a steadily rising PRICE UK-based Imperial 500 chioride — PVC — was 400%

> This rosy picture was abruptly shattered by the Organisation of Petroleum Exporting Countries and the 1973 oil crisis. During the ensuing recession, demand

ever since and during the recovery period there have been some dramatic year-on-year increases in the demand for individual plastics. But none sooner. them being resigned to the prospect of a recession in the West in 1980-81.

of chemical companies also says there are probably still a opportunities for expansion been seized. It mutters darkly mer to another. ICI reckons through substitution existed that someone might have that over the next five years





thought of bags and spoons

to 18 months that plastic cut-lery—usually made from LDPE -has really started taking over from metal for mass catering purposes," the group says.
"Yet cutlery could be said to
have provided an obvious
enough opening for substitu-

Paper bags

"Another example is plastic bags. Three years ago around produced were still being made of paper and only 40 per cent were plastic. We estimate that today some 90 per cent of all bars are plastic."

The growth in demand which the chemical companies are looking for-few are so bold as to commit themselves to a hard number of opportunities for and fast "forecast" or "pre-substitution that have not yet, diction"—varies from one poly-

there will be an annual increase in demand of 5 per cent for "It is only during the last 12 LDPE, 4 to 5 per cent for PVC 18 months that plastic cut- and between 12 and 14 per cent for polypropylene.

The group admits that it is "probably more bullish than anyone" on the outlook for polypropylene although it is not alone in expecting this year's demand for the polymer to be 20 per cent up on 1978. Some other, producers are projecting an increase of 25 per cent compared to last year.

Polypropylene is one of the

most flourishing plastics at present—partly because it is so much younger than some of the other materials such as PVC. ICI believes there are particularly good prospects for polypropylene in the car components field. The group points out that the use of plastics in the European automotive industry is growing rapidly—but penetra-tion is still well below the levels achieved in the U.S.

One reason why ICI is so Another factor that could de-optimistic about the future of tract from the reasonably hope-

polypropylene is because estimates supply and demand for the polymer should be in balance by 1982. The supply position on the other major polymers is generally bleaker, with little hope of a quick end to current overcapacity in production.

million tennes

ICI states, for example, that at present there is "a lot of spare LDPE capacity swilling around in Europe and it reckons that next year most LDPE plants will be operating at only 80 per cent of their potential. It believes a small but steady growth in demand will slowly mitigate this situation, but it estimates that capacity utilisation will reach 95 per cent until 1985.

This could mean a long haul for companies making LDPEespecially as it will come on top of what ICI estimates to have been a combined loss of £200m by European producers of the polymer last year.

the major European chemical producers. The dramatic rise in Europe's plastics producers will the cost of oil-based feedstocks still have to develop somewhat -chiefly naphtha-which fol- different policies if they are to demand growth. One company lowed the revolution in Iran see their industry age both gave the chemical majors the gracefully and successfully. opportunity to raise substantially the prices of their plastics materials and so far the increases have held.

Repeated attempts to put up ducers had always insisted on market at the expense of price. The fear now is that a recession next year will bring a resurgence of what was effectively a price war.

An economic downturn could bring much stiffer resistance to higher polymer prices and many of the smaller plastics processing companies which buy from the chemical majors would, in any case, be vulnerable dur-ing a recession. Yet in real terms plastics prices have not risen very steeply during the

past three years.
ICI's LDPE, for example, was priced at £375 a tonne in early 1977 but was forced down to £290 a tonne early last year before rising in stages to £515 a tonne by last month. Compared to the beginning of 1978 the group's LDPE prices have risen 80 per cent—but compared to the start of 1977 they have gone up by only 37 per cent.
A return to weak prices plus

continuing overcapacity could do much to temper the benefits of a projected steady, if modest, growth in demand for plastics materials. On the other hand, these same two elements could lead to a greater degree of easier for the fitter companies

ing substitution opportunities,

The Shell chemical group reckons the industry will opt for the fairly conventional approach of trying even harder to cut production costs. It says its own prices during the last few years researchers are looking to such had all failed because some promethods of streamlining costs as using catalysts with higher going for volume in a weak activity-better catalysts can increase efficiency by as much as 10 times.

Development

Shell thinks the scope for modifying the products themselves is limited. It says most of the obvious improvements have already been made although it admits there is still some room for development—especially in polypropylene.

The group does not foresee any strong movement away from commodity plastics into specialties. It points out that diversification into specialties is extremely costly because of the different technology that is required. It adds that a changeover of this type would probably take between 10 and 15 years to plan and follow through because of the new plant that would have to be built and the human expertise that would

have to be acquired. Hoechst does not expect the major polymer producers to go into highly specialised plastics either but it does think there will be far more work put into the modification of existing rationalisation within the indus-try. This might be brutal but further research will lead to it would make conditions far polymers "with interesting new properties" and it cites such recent developments as laminaates of dissimilar materials.
The German group says that

ful picture on demand growth maintenance of sensible pricing "substantially more" will have is a return to price cutting by and the mopping up of outstand- to be spent on product research but it adds that improved polymers with new market applications could do much to sustain that has decided to move towards speciality products is BP Chemicals.

> The company recalls its thinking when deciding whether or not to buy sections of Union Gerbide's and Monsanto's chemicals businesses in Europe last year: "We saw an industry likely to enjoy growth rates above those of GNP for some time to come but an industry heading for its mature phase, particularly in respect of some of the bulk commodity products.

"In looking at our industry prospects and our own position we concluded that our strategy should be directed, in the first instance, to continued exploitation of our strengthsto an extension of our range of interests both in a geographical

and in a product sense.

"For the first, a wider move into Europe was an obvious choice. For the second we wanted to develop our product range—to move into higher added value products where we would be providing a more sophisticated technical service to a wider range of customers.

BP Chemicals says that when it finally bought Union Carbide chemical interests, it immediately increased its involvement in "what might be described as speciality products such as the

The next five years are cer

Letters to the Editor

Accidents

deteriorate.

From Mr. A. G. Horsnail Sir. -- While we continue to be times which could relieve the complexities of industrial life. and which have an important bearing upon industrial welfare. One important fault of

free collective bargaining." In our present society, the frequently overlooked, is the numbers of unemi inimense amount of union and really unimportant. management time taken up by preliminary and final negotia-

Senior Partmer. tions in addition to all the T S Associates and Company. discord and strike play which 105. High Street. I am advised that leading

Fighting the real enemy

From the Chairman, Weir

All this negotiating effort for free collective bargaining Pumps Sir,-Your editorial of September 14 concerning the engineering dispute only touches upon the worst effect available for management and unions to settle other employwhich is the adverse reaction ing practices and methods of foreign customers made big company, if successful—Recent UK industrial accident worse by the overvalued pound; jurning a full circle! Recent UK industrial accident Anyone who has had to travel Deaths Accidents widely abroad to convince customers that delivery promises efc, will be honoured knows full well how badly our industrial disputes (nonsense?) have hurt British exports. And thus our economy and society.

Other countries can perhaps afford ignorance of what it's like to work in and deal with for-Executive)
The good years, 1975, and eign countries—because they have good industrial perform-1976, correspond with years in which Phases 1 and 2 fixed own period of close exposure wages policy agreements to British Government, politi-were in force. The bad years correspond with periods of constantly confirmed that these are correspond with periods of constantly confirmed that these bargaining, key bodies of powerful people by the periods of the confirmed that these corresponds to the confirmed that these confirmed chairs are constantly confirmed that these confirmed chairs are confirmed that these confirmed chairs are confirmed to the confirmed chairs are confirmed to the confirmed chairs are confirmed to the confirmed chairs are confirmed chairs. key bodies of powerful people know virtually nothing of the world beyond our shores. Not

to mention their inability to read the foreign press. If they did then perhaps the unions would stop fighting management over the declining body of our country and realise that their overwhelming concern should be to combine interests and fight the real enemy-our tough and united Sir.—Mr. G. Boucy
Sir.—Mr. G. Eedle writes on
September 12 regarding "Employment Fiction." With respect
to him, this gentleman appears
to be one of the few people in
this country, with the exception
of Successive Commentate who competitors overseas. Perhaps they might also sound out their members at shop floor level who increasingly are becoming aware of this point. Lucien Wigdor. of successive Governments, who is not well aware that the published unemployment figures

bear little relationship to the facts—which is no different to Venture capital

Directer House.

Mark Lane, EC3.

From Mr. Michael G. Ayres parents—we have an office girl. Sig-Recently there has been aged 174 and she did not know that Ireland is divided into two nor can she add up three sets. a great deal of lip service paid to small businesses and the

wrongly consider themselves Pay day-indeed why bother at all when the country pays for short term sources of capital, their necessities and they have without the flexibility to meet differing requirements and on the other hand you have the "so. plenty of time to take a casual job where they may well be paid in cash with a nod and a called " venture capital institu-

nowadays—this is shown by the AUEW which is insert upon crippling industry the shown at BL's Cowley Factor where men on the assembly three can at BL's Cowley Face Stigms the previous agencies, at BL's Cowley Face Stigms the previous agencies, at BL's Cowley Face Stigms the proving a seen attaching a component, tailed, if not re-directed then removing it then to Latterly anyway, it seemed presultating it so that output can occupied with investing in high

be kept down thus shielding the technology projects or propping necessary last January, it was

ackers. up existing companies. We have allowed our stan- All of these services are dards in the country to be admirable but in my view they reduced ever since 1945 until do not support an area of trewe are now a third class nation mendous need for the young memorised by new wage managing to survive on past company. Not a great deal of demands, year by year, we are forgetting many other consideraceed—the most powerful of £10,000-£20,000 would satisfy which is the need to earn in a most small companies during trade statistics, the fallac competitive environment sufficiently. This sum is the increasingly persuasive: cient to provide a good living investment made by a company haps many consumers are just then we will continue to recruiting a middle-manager not sufficiently impressed by the deteriorate.

during his first year's employ- rate of progress I have ment, with none of the legal indicated?

> employer. There is clear evidence to suggest that this country works better in small units, hence our abysmal productivity record in recent years. The small business is efficient because people cannot hide as they can in a large company, and it would be too easy to point a finger at

some large organisations at the I am not sure what the answer should be—perhaps a scheme whereby large companies take on minority equity interest in small companies. The trouble with that is the small company will be "swallowed-up" by the

turning a full circle! Where does the small busi-nessman who is establishing an industrial trading company go to find his capital? I wish I knew. It would be very easy to give up and go back into industry as an employee but I think will persevere as "Maggie'

may come good! Michael G. Ayres, (Director), Portable Microsystems. Forby House. 18, Market Place.

Repair of the month

From Dr. Robin Carter From Dr. Robin Carter
Sir.—Mr. Mullard (Sept. 8),
fails to display a proper appreciation of this country's progress in the last few years. A
mere eight weeks to repair his
dishwasher? If this happy
prediction is fulfilled, the manufacturer concerned will have facturer concerned will have acted like greased lightning compared with past performances. In days of yore, I once waited ten months for a simple and straightforward repair, under guarantee, to my £100 (1970) dishwasher, manufactured by the British division of an American company whose name is a worldwide household word. Like Mr. Mullard I eventually tried to get some action by a direct appeal to the company's managing director, and like Mr. Mullard. I received the usual bland sympathetic and false assurances from both the company to the c from both the "Consumer Relations" and the "Customer of figures. So far as adults are entrepreneur; my experience Service departments (they concerned, most of those suggests that there is no real must run in-house competitions between the ages of 18 and 40 venture capital available in the for these jokey names). Finally, where they are unable to merge. On the one hand you have the hat for the Repair of the Month, into a sea of other people until clearing banks who rightly or and the machine then worked pay day indeed. my name was drawn from the properly for a whole year and a half before the next major

fault developed. So let Mr. Mullard be duly ob where they may well be the other hand you have the "so thankful: Things are getting aid in cash with a nod and a called" venture capital institu- better! For my part, I confess tions who in my experience are that I lacked the patience and really expansion capital institu- tenacity to continue the seems to matter little tions.

The one source of true vendous indefinite period with which is interest upon the previous government.

Scowley Factor of unemploy really expansion capital institution tenacity to continue the struggle, and, rather than spend another indefinite period with a power of useless junk in the log industry. kitchen. I sold it for £10 and bought a well-known Italian dishwasher for £62 (new). This

Amalgamated effected within 48 hours, and at a fair price. But comparisons. they say, are odious, and one should not generalise from particulars (a lesson I learned long ago from Which? magazine,

where my first dishwasher was once rated a "Best Buy"...); unfortunately, to judge from trade statistics, the fallacy is

Kopm Carter Highbank, Speltham Hil!, Hambledon, Hants.

Pension

tunging From mr. augmond Nottage

Sir,-Mr. speading states (September 12), in support of Air. Sulicksmith, that the long term costs of inhalicing pensions would increase it a change were made from the funded pasts to pay-us-you-go approach whener or not the func earns

a real rate of return." This view seems to be contrary to that expressed by the Government Actuary's Department in their evidence to tue Wilson Committee, part of which I quoted in my earlier letter. The Department's con-

cluding paragraph said:
"There seems to be little doubt that, if it became the accepted view that a positive real rate of return was unlikely to be earned even in the long term, the system or funding as at operated in the present United kingdom could not long survive and would have to be substantially modified or replaced by alternative arrangements."

One must therefore decide whether the truth lies with Shucksmith Spedding or with their professional colleagues in the Govern-ment Actuary's Department. Raymond Nottage. Rejorm Club, Pall Mall, SW1.

Undervalued engineers

From the Executive Director, Council of Engineering Institutions

Sir,-It is becoming commonplace that engineers in this country are undervalued and under rewarded. In case it should be thought that engineers are overstating their case, the table "Best Paid Managers in Manufacturing and Service Companies" which you published in your issue of Sep-tember 13, provides striking

"Senior Development En gineer" is rated 30th out of 31 with a median salary of £6,600 which actually shows a reduction since last year. His extra earnings and other benefits are also revealed as significantly lower than those of most other managers.

A man or woman holding this position should be a Chartered Engineer with a degree and several years practical training and responsible experience. Is it surprising that the engineer-ing profession is unable to attract enough bright young people to meet thte needs of industry? Is it possible that the performance of British Industry is at least partly due to the low value it places on those who design and develop its pro-

GENERAL UK: Zimbabwe-Rhodesia con stitutional conference continues. Lancaster House, London. Union

Engineering Workers conference continues, Eastbourne. Engineering industry pay talks resume. Second day of engineering workers national strike. Association of District Councils four-day meeting opens in

Scarborough. Royal Commission on Environmental Pollution publishes report on agricultural pollution. Overseas: President Pertini of Italy starts five-day visit to West

Germany. United Nations

rent account and overseas trade figures for August. COMPANY RESULTS Final dividends: Elder Smith Goldsbrough Mort. F and C General Eurotrust. Mills and Allen In-

ternational. Ricardo Consulting

Today's Events

Assembly meets, New York. EEC Foreign Ministers meet, Brussels.

Department of Trade pub-lishes balance of payments cur-

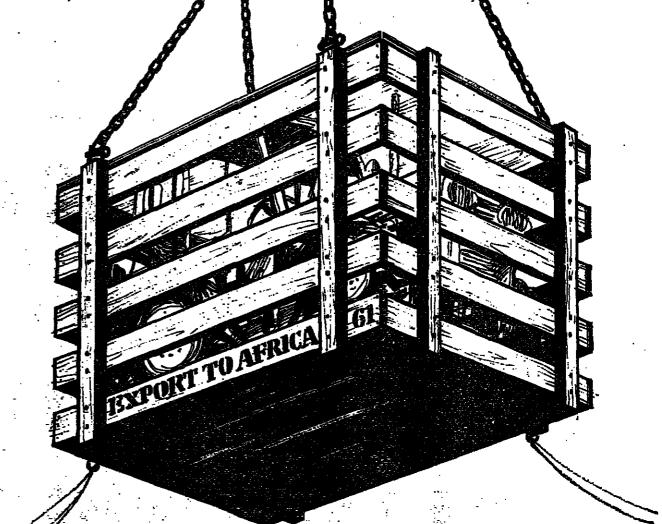
Engineers. George H. Scoles and Co. Zetters Group. Interim Second day of EEC Agricul- dividends: Eurora Holdings. Bank ture Ministers meeting, Brussels.

Budget presented to Dutch
Parliament.

OFFICIAL STATISTICS
Department of Trade pub-Rosedimond Investment Trust. Royco Group, Willis Faber. Royco Group. Willis Faber. Interim figures: Jardine Japan Investment Trust. L. Ryan Hold-

F and C COMPANY MEETINGS

Ancoats, Manchester, 12. Bristol Evening Post, Temple Way, Bristol, 12. Gresham Investment Trust, Barrington House, Gresham Street, EC, 12. Group Investors, 2 St. Mary Axe, EC, 2.30. Hazlewoods (Proprietary), Trust, **Barrington** pool Street, EC, 12. Polymark International. Jeddo Road, Shepherds Bush, London W, 3. Redland, Plaisterers' Hall, I Lon-



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When one of the world's largest manufacturing companies invests in a new British base, that's good news. Not only for employees of Kubota Tractors (UK) Ltd, for our suppliers and customers. But for the third world too.

For that's where Britain's new Kubota company is shipping its diesel-saving

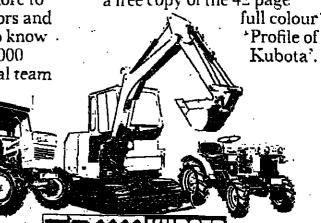
compact tractors. Many of them fitted with cultivation implements made here in Britain to Kubota designs.

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special grades of LDPE pro-duced at Antwerp."

tain to see some clearly-defined changes of emphasis in the plastics industry, but the period is unlikely to be an easy one for the chemical majors. In the short term there will be no glittering prizes for those which make the transition from youth to maturity successfully. the penalties for failure could be great.

Place, Kensington, W. 12. Brady Industries, New Islington Works,

Empire Works, Rowditch, Derby, 12. S. Leboff (Fobel), Hendon Hall Hotel, Parson Street, Hendon, NW, 11. Moorgate Mercan-tile, Great Eastern Hotel, Liver-

Airfix Industries, 17 Old Court don Wall, EC, 12.15.

Utd. Biscuits midway downturn to £16.1m

ALTHOUGH PRE-TAX profits of United Biscuits (Holdings) were down from £18.6m to £16.1m in the 28 weeks ended July 14, 1979. the directors are looking for a hetter second half and say profits for the year are likely in he about the same as the £42.21m for 1978.

Sales for the 28 weeks rose from C362.78in to £402.84m re-flecting increases in the UK. North America and Europe but a sales fall from the rest of the

Sir Hector Laing, chairman, reminds shareholders that at the annual meeting in May he said the road haulage dispute had cost the UK company Em in lost profits but that buoyant trading conditions since March had enabled some lost ground to be recovered.

He now says that taking the group's heavy investment programme into consideration, he helieves the interim results should be considered satisfactory. Should be considered satisfactory.
Stated earnings per share are
on against 6.1p, but the interim
dividend is raised from 1.5p to
1.7p—the previous total was
3.006p.

The chairman says most of the trading hunyancy in the biscuit company has been in chocolate lines, but because of shortage of eagacity the group has been unable to supply all orders fully. The foods company substan-

porticularly of potato crisps. The frozen foods and fast food restaurant companies are fulfilling expectations but in both areas the group is investing heavily for the future and incurring costs in the short term.

As was to be expected, sales of VAT-rated products were affected adversely when the rate was increased to 15 per cent. The increased VAT applies to only four weeks of the first half year and it is too early to know for how long consumer resistance will continue, says Sir Hector. In the U.S., the Keebler Com-

pany had a satisfactory half year in dollar terms and, had 1978 average exchange rate applied, sterling profits and sales would have been 10.8m and £13m higher

respectively.		
• -	.28	veeks
	1979	1978
	E000	E000
UK sales*	264,046	
North America	124.526	121.672
Europe	12,494	10.833
Rest of world	1.773	3 111
Totel sales	402,839	362,778
UK profit	11,672	14.883
North America	6,923	6,491
Europe loss	339	518
Rest ni world loss	191	170
Trading profit	18.C65	20.686
Interest	1.935	
Profit before tax	16,130	18.595
Taration	3,401	3.294
Net profit		15.301
" including exports. :	l Aiter d	ebiecis.
tion of £8.47m (£7.1m)		-

The Spanish company Ortiz,



Sir, Hector Laing, chairman of United Biscults, seen at the company's Harlesden factory.

considerable losses for several buoyant for general engineer years, achieved small trading profits in July and August and the chairman expects this improvement to continue.

Squeeze on H. Cory margins

PROFITS BEFORE tax of Horace Cory and Co., chemical colour maker, were down slightly from £253,000 to slightly from £253,000 to £249,000 in the six months to June 30, 1979. Turnover amounted to £1.37m, compared

The directors say the results must be regarded as satisfactory in view of the difficulties experi-enced during the road haulage They add that profit continued to be margins squeezed by increasing costs and it would be rash to forecast the

First half tax takes £130.000 (f132,000), giving earnings per share of 1.27p, against 1.29p. The interim dividend is increased from 0.37p to 0.6p— last year's total was 0.75318p from pre-tax profits of £510,000.

Process plant industry faces low demand

THE DEMAND for process plant from the developed world

Specialised machinery; process plant contracting; merchanting & storage

SIMON ENGINEERING

Interim Report for the 6 months to 30 June 1979

Profit before tax for the six months

The Directors have declared an

to 30 June 1979 is £7.252 million

increased Interim Dividend of 4p per

Ordinary share (3p in 1978) which will be paid on 31 December 1979 to

Ordinary shareholders on the Register

of Members on 3 December 1979.

As indicated at the time of the Rights

issue, the Directors intend to recom-

mend a total dividend of 11.33p per

(£6.310 million in 1978).

share in respect of 1979.

Share of profits of principal

Interest receivable less payable...

Principal associated companies...

Simon Engineering Limited...

Preference - 6% (now 4.2% plus

tax credit) paid 1 July 1979......

Ordinary - Interim 4p per share

(equivalent with imputed tax

credit, to 5.7143p: 1978 - 3p

31 December 1378 £3.191,000).

eilective rate for the full year 1978.

request to the Company Secretary.

published Report and Accounts was minus £348,000.

equivalent to 4.4776p)....

associated companies.

Profit before taxation.

Profit after taxation.

Profit attributable to

Minority interests.

Dividends

Trading profit.

Taxation

ing products, contractors will have the advantage that in most manufacturers and will be able

to obtain the best prices. But the review says that it is possible that the increased resources resulting from the sharp increase in oil prices will lead to renewed investment

Petrolane Inc. gets London listing

A listing has been granted by the London Stock Exchange for issued and reserved shares of common stock in Petrolane Incorporated, a Californian-based oil and gas com-

first quote outside the U.S. Petrolane's main activities include the marketing of liquid gas, oil and gas drilling and servicing and food retailing.

For the year ended September 30, 1978 the company reported pre-tax earnings of \$90m (\$81m). Current year net earnings are expected to be about \$2.35 a share adjusted for a recent two-for-one stock split—an increase of about a fifth.

It is proposed that dividend payments equal to about 28 per cent of the prior year's net income per share.

Dealings in the shares begin today. They are being listed at the sterling equivalent of \$48.75 —vesterday's U.S. share price.

The listing has been arranged by S. G. Warburg and Co. will be at a low level next year. Brokers are Cazenove and Co. While demand will not be and Rowe and Pitman.

It is difficult to forecast ahead when

so many uncertainties prevail, not

least those that have an adverse effect

on the competitiveness of British

industry at a time when world trading

level of orders in the first six months

of 1979 that we achieved in 1978.

However, our spread of activities

stands us in good stead and the Board.

still expects reasonable growth in 1979.

Year ended

31 Dec. 1978 £000

235,601

14,865

15,492

16,606

-6,834

-7,070

9,536

-681

8,855

-236

1,114

627

We have not attained the very high

conditions are sluggish,

30 June 1978

109,344

5,584

261

465

5,845

6,310

-2,588

-2,686

-230

3,394

19

621

-98

Six months ended Six months ended

133,973

6.352

228

672

6,580

7,252

-3,079

-112

-3,191

4,061

3,785

19

1. The trading profit is after charging depreciation of £1,890,000 (30 June 1978 £1,229,000;

3. The charge for taxation for the six months to June 1979 has been based on the estimated effective rate for the full year. The 1978 six months' charge has been adjusted to reliect the

5. A statement on the wages and conditions of our African workers in South Africa has been prepared in accordance with the White Paper (Command 7233) and will be available on

4. There were no extraordinary items in any of the above periods and because of the uncertainty of Inture currency movements no assessment of exchange differences is made at the half year.

Exchange differences are also excluded from the comparative figures—the full year figure in the

2. The figures for the six months ended 30 June 1978 and 1979 are unaudited.

-276

HIGHLIGHTS

United Biscult's first half figures show a fall in pre-tax profits to £18.1m from £18.6m, but the group says that the haulage strike cut into profits by even more than the 13m previously reckoned for, yet the company expects to recover the shortfall in the second half. Lex also takes a look at the battle between Spillers and Dalgety, considering the alternatives for shareholders as the first-closing date approaches. Elsewhere sterling's renewed volatility is now beginning to have an impact on interest rates both in the money market and the gilt-edged market. Lex comments. Figures from Simon, Ransomes Sims and Jefferies and Henry Sykes come in for comment inside and notes are also made on the results from Black and Edgington and Low and Bonar.

Low & Bonar rises 10% at six months

ELIMINATION OF unprofitable affected by the reduction of the lines in the UK packaging group's Nigerian shareholding to lines in the UK nackaging division helped lift the taxable surplus of Low and Bonar Group by nearly 10 per cent, from 14.07m to 54.48m, in the six months to May 31, 1973.

The directors of the packaging, angine ring and textiles concern.

engineering and textiles concern say the slight fall in turnover to E70.55m (E70.83m) was mainly due to the UK packaging rationalisation and the conversion of overseas sales into sterling. The strong pound effectively reduced Canadian and African profits by £168,000, they

The profit, the directors say, is satisfactory considering the effect of the transport strike, enect of the transport strike, higher interest rates, and the fierce competition in export markets, especially for engineering—aggravated by the strength of steriling. The UK proportion of group profit increased from 38.6 per cent to 46.4 per cent, they add. Tax took £2.08m, against £2.15m. The net interim divi-

£2.15m. The net interim dividend is stepped up from 4p to 5p per 50p share and includes 0.3655p for 1978 following the tax rate change, Last year's total was 12.1605p, paid from record profits of £8.66m.

Packaging division profits advanced from F1.01m to F1.98m after the reorganisation and rationalisation programme. The UK surplus surged to £891,000 (£73,000), while the Canadian profit was 37 per cent higher in dollar terms—reduced to 15.8 per cent on conversion to sterling.

The slight decline in engineering profits - from \$1.34m to -resulted from the severe competition in export markets, particularly in the electrical and heavy engineering areas.

The strong pound was partly 1979 pre-tax earnings reach £9m. responsible for the fall in textile then the fully taxed p/e could division profits. from £2,07m to stand at over 5—not too £1.79m. The surplus was also expensive.

40 per cent and the economic position prevailing in other parts of Africa, the directors say.

A geographical analysis of A geographical analysis of turnover and profits shows (in 5000s): UK/EEC 45.899 (43.309) and 2.357 (1.709); Canada 15.915 (17,079) and 1.090 (941); and Africa 12.714 (14,669) and 1.640 (7.780)

·•	Sia months	
	1973	1978
	EDCO	5000
Sales	70,530	70,829
Trading profit	4,032	3,576
Associates	430	490
Profit before tax	4,462	4.066
Tax	2,678	2 150
Net profit	2.384	1.916
Minorities	432	358
Attributable	1,992	1.558
Interna div.	558	446
	778	- š
Pref. drv	•	•

comment

The news from Low and Bonar is quite respectable, but not surprising. The market has known about the group's worldwide rationalisation reorganisation programme some time and received word of higher progts on lower turnover with satisfaction; the share price was lifted 3p to 17Sp yesterday. The company, which has a market capitalisation of around £19.5m, is spending more than £6m on capital improvements in 1978-79. The deliberate policy of reducing the overseas share of profits is bearing fruit and this has helped to build up UK operations. Although sterling cut into first-half profits, it could be less threatening in future if the exchange rate continues on its present course. The interim dividend is increased by 25 per cent, and a similar advance in the final could yield over 12 per cent, an attractive return. If 1979 pre-tax earnings reach £9m.

Black & Edgington hit by higher interest charge

TRADING PROFITS of Black and the lorry drivers strike, and workwear group, were little had slipped by 23 per cent. changed at £1.96m, but increased Caravan production was parinterest charges meant that the ticularly hard hit just before the pre-tax surplus fell from £1.54m lucrative summer season. On the to £1,18m for the first six months higher at £35.24m.

The first quarter's trading was badly affected by the severe win-ter and the transport drivers' strike, but in the second three months most areas of the group traded satisfactorily.

It is expected that the campwhich last year incurred sub-stantial losses, will reach breakmanufacturing division. even this year.

Mr Robin Duthie, the chairman, says it is not envisaged that trading conditions in the second half will be easy and a continuation of high interest rates, together with a strong sterling exchange rate will lend to hold back profit recovery.

The chairman points out that the group has expanded fast in recent years largly by acquisi-tion, and a considerable rationalisation of certain parts is under way. He is confident that a sound base for 1980 is being

tax of £354,000 (£400,000), net profits for the period dropped from £1.14m to The net interim dividend is

kept at 2.2p per 50p share, costing £413,000 (£401,000) and the Board expects to recommend a maintained final-last year's total was 4.9888p on £2.34m pre-tax profit.

comment

Having completed a string of acquisitions, Black and Edgington is going through a period of retrenchment as it adjusts to its enlarged base. Unfortunately, this has coincided Unfortunately, this has coincided seeking to minimise the tax with adverse weather conditions liability on their investments.

and Edgington, the leisure and by the end of the first half, profits camping side there is an element of 1979. Turnover was £8.51m of recovery following the closure higher at £35.24m. of a number of factories after the company lost a large export contract Overseas competition is still severe but here are now efforts to diversify into more specialised camping products At this stage the outlook for the rest of the year is still unclear. Certainly it will be difficult for the company to reach last year's £2.3m pre-tax. At 70n, up 2p, the prospective yield is 10.5 per cent.

UKP extends benefits on Moneymax Plan

The United Kingdom Provident has extended the benefits provided on its successful Moneymax Plan by introducing to enable the investor to draw a tax-free income for life on the contract providing it has been in force at least 10 years.

The Moneymax Plan was introto allow the investor to have the guarantees of a traditional with profits endowment combined with the flexibility of a life assurance savings plan as marketed by the unit-linked life companies. This enables the investor to take tax-free capital sums at the end of the tenth year or to leave the capital to grow until required. Now the plan provides tax-free income.
The plan has obvious attractions to higher rate taxpayers

J. HEWITT & SON

(FENTON) LIMITED

Manufacturers of domestic and industrial refractories, kiln furniture and electrical porcelain

INTERIM STATEMENT

The unaudited results for the half-year to 30th June 1979 and

corresponding figures are as fol-	lows:—		
:	Half-year to 30.6.79	Half-year to 30.6.78 (adjusted)	Year to 31.12.78
· · · · · · · · · · · · · · · · · · ·	£'000 1,691	£ 000 1,226	£'000 2,787
Profit before taxation Taxation	162 29	110 23	311 101
rofit after taxation	133	87	210
arnings per ordinary share of Sp	5.9p	3.9p	9.2p

The company has a full order book for both the home and export markets and I anticipate that the highly satisfactory , evel of turnover and profits achieved for the first half of 1979 will continue for the remainder of the year. Your Board has authorised further capital expenditure in 1979 amounting to approximately £250.000 to extend the company's production capacity.

H. Sykes first half profit almost halved at £575,000

ALTHOUGH sales were margin-ally higher at \$10.42m against \$10.24m, taxable profits of Henry Sykes, the pump, winching, pneumatic and marine equipment group, were almost halved from £1.01m to £575,000 for the half-year ended July 1, 1979. A substantially stronger pound

meant that the company lost much of its competitive edge overseas and as a consequence. carnings have fallen in these

in addition, the company encountered technical problems during the early stages of the new range of Sykes super univac pumps, which the Board is satisfied have now been overcome. Profitability was also affected by the initial trading losses incurred by the company's new

U.S. subsidiary, Jacger Sykes, which had been anticipated.

The board expresses deep concern at the impact on business of the national industrial action by the engineering unions. Continued strike action is bound to affect earnings and lead to a further loss of orders, it adds.

As to the future, the board confident that decisions new range of pumps and expand overseas markets for the expand overseas markets for the company's products were correct and will lead to success in 1980.

After-tax earnings per 25p share are shown halved at 3.7p (7.4p), but the interim dividend is maintained at 1.5p net-last year's total was 4p on £1.57m

Associates' contribution for the half-year increased from £56,000 to £125,000. Interest charge way up from £175,000 to £241,000 and tax took £282,000 (£375,000).

comment When Henry Sykes became the first (and only) stock traded by (start-up in the U.S. and teeth-ing troubles with the new pump)

DIVIDENDS ANNOUNCED

• .	Current	Date of	Corre- sponding		Total inst
		payment	dıv.	year	year
Albany Investment int.	0.55	Nov. 6	0.45	_	1.34
Black & Edgington int.	2.2	_	-1 -4 -1 -1		4 99
Horace Cory	0.6	Oct. 24	0.37	_	ด 75
Federated Landint.	i	Nov. 16	0.8		2.73
Jos. Holtint.	1 2	Oct. 2	1 .		3.62
J. B. Hidgsint	1.5	Jan. 7	0.5	_	1.47
	1 45	Dec. 4	1.29	2.48	2.21
Jentique Low & Bonar int.	r5		4	-	12 16
Minerals & Resources	ું8	Nov.9	S	12	12
Ransomes, Sints	3.14	Nov. 16	\$ 3	_	\$9.87
Kansomes, sims Simon Englacering int.	4	Dec 31	3	_	9.87
	1.5	Nov. 5	1.5		4
H. Sykesint.	3.52		3 52	5.86	5 66
Tor Inv. Income int.	1.7	Jan 7	1.5	-	3.01

Dividends shown pence per share net except where otherwise stated Equivalent after allowing for scrip issue. On capital increased by rights and/or acquisition issues. I Gross throughout, 5 includes additional 0.29p for 1978. I Includes 0.3655p for 1978 after tax rate change. U.S. cents throughout.

M. J. H. Nightingale to obtain may not recur but increasing npetition and stagnant cona full listing, in December, 1977, struction activity do not augur shareholders must have expected more than the crosion of earnnew pump range will need to start performing well soun if. mgs which has proved their lot. The share price fell 5p to a new Sykes is to meril its prospective fully-taxed p/e of 10.5—based on low of 600 yesterday on profits more than halved at the attributfull-year profits of film. A main-tained final dividend would prothe group—badly hit by the engineering strike—will be lucky to make more than film pre-tax this year. Sykes has built up its duce a yield 9.8 per cent, which is some consolation. overseas sales to almost half of the group total over the past few strong pound and lower order levels in some foreign markets,

COWAN DE GROOT

At the annual meeting of Cowan de Groot, Mr. Derrick Cowan, chairman, said that "trading was satisfactory this year, and sales were up 25 per cept on the same time last year A number of possible acquisi

Louis Newmark makes good start to current year

notably the middle east, has taken a slice out of margins.

Newmark has started well and applications as inspection aids in reasonably stable national industrial seene, the Directors are currently working steady progress of previous years on the use of micro-processors will be maintained. Mr. G. L. and new forms of display units Newmark, the chairman, says in for the next generation of his annual report.

Despite the difficult year in 1978-79, the board has pursued an aggressive policy of selection and application of new plant and machinery, improved general facilities and moved steadily into new fields with products based on modern technology.

In those factories engaged in precision machining of metals, copter and fixed wing control directors have already intro-systems for new aircraft are duced several types of currently being developed suphisticated computer con- among which is the new West-trolled machines as the introduct land WG30 helicopter making

In metrology the group has considerable strides in the ponents for applications which land Street, W. October 16 at application of electronic gauring are directed towards the use of noon.

RIVER PLATE REPAYMENT

River Plate and General Investment Trust has recently renaid \$500,000 of its \$1m currency

CENTREWAY

Mr. A. J. Cross, chairmen of Centreway, told the annual meet ing that some measure of progress in pre-tax profits for the engineering workers strikes have September at the important subsidiary S. J. and E. Fellows.

UNITECH Unitech announce that of the

3,386,594 new ordinary shares offered by way of rights, 3,287,762 chares (97.1 per cent) were taken

King & Shaxson Limited 52 Cornhill EC3 3PD

52 Commili cus orGilt-Edged Portiolio Management
Service Index 17-79
Pontiolio I Income Offer 84 2
Bid 83.8
Portiolio II Capital Offer 142.5
Bid 141 i

The current year at Louis in both individual and system Directors are currently working instrumentation.

The group is also actively engaged in the development and vices in the field of tension transducers and associated electronic controls aimed at requirements in industries such as mining and paper processing. in aircraft controls, both heli-

tion to the capital investment use of updated sensors and their uthed electronics.

The component divisions are

micro processors and to meet retelecommunication. machine and general professions

in addition they are engaged n meeting the needs of in meeting the needs of sophisticated defence systems and sub systems used by the armed services and organisations concorned with marine safety. In the year ended March 31,

1979, profits before tax amounted to £1.98m against £2.13m, the last six months being adversely affected by industrial Merchanting showed an inrease over the previous year.

The main contribution came from the improvement on the watch side and the chairman is pleased that the growth is being maintained in the current year

① J.B.Holdings

The Johnston Group of Companies

Engineering and hydraulics. civil engineering supplies, civil engineering and road maintenance

INTERIM REPORT

	Six Months to 30th June 1979 £	Six Months to 30th June 1978 £	Year 1978 £
umover ·	13,531,000	10,332,000	25,401,000
rofit before Tax	864,600	957,000	2,813,000
rofit after Tax	415,000	460,000	1,771,000
ividend per Ordinary Share	1 50m	n En-	1 47-

Group order books currently at a satisfactory level.

Copies of the Interim Report may be obtained from the Registrar, Midland Bank Limited. Registrar's Department, Courtwood House, Silver Street Head, Sheffield, S1 3RD.

VIBROPLANT HOLDINGS LIMITED

Another record year

The demand in the industry over the last few months has been very encouraging and I am pleased to report that the trading profits achieved so far this year are in excess of those achieved for the same period in 1978. Although the current economic situation remains uncertain, we feel that the strength of your Group and continued controlled expansion, will further increase our profits in the current year.

Airpac International and the portable buildings divisions have again increased their contribution to the Group's profitability, and with the outlet and support from the additional depots, progress should be maintained.

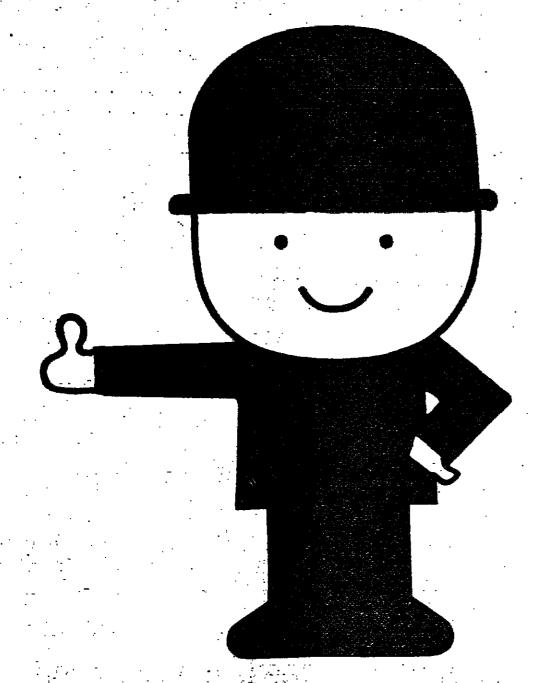
R. CLINNING, Chairman.

Results in brief to 31st March	1979	1978
,	£'000	£,000
Turnover	11,156	9,485
Profit before tax	3,172	2,609
Profit after tax	2.029	1.252
Earnings per share	33.83p	20.87p.
Asset value per share	138.23p	87.06p

Copies of the Report and Accounts can be obtained from the Secretary, Vibroplant Holdings Limited, P.O. Box 12, Harrogate, North Yorkshire

SIMON ENGINEERING LIMITED CHEADLE HEATH STOCKPORT CHESHIRE SK3 ORT اهكذا من الد مل

This advertisement has been issued by Spillers Limited.





SPILLERS or DALGETY?

Spillers have forecast profits for this year at around £15m and have a good base for future profits growth.

Spillers dividend is increased by 67% to 3.4p per share.

Spillers employees, board and customers are opposed to the offer.

Spillers have built up a highly successful range of branded products which includes such household names as Homepride, Slimcea, Winalot, Kennomeat, Spratts and Tyne Brand.

Dalgety have not forecast profits for this year. Their profits are uncertain and could well fall sharply.

Dalgety's shares would give a lower income — equivalent to 3.33p for each Spillers share.

Dalgety's own board was not even united in making the proposal.

Dalgety have very few branded goods.

Your Chairman's message is clear.

Ignore the offer. Do not sign any document sent by Dalgety.

The Directors of Spillers Limited have taken all reasonable care to ensure that the facts stated and the opinions expressed herein are fair and accurate and they jointly and severally accept responsibility accordingly.

19

profit £575.00

kes 200d

M REPORT

ri vear

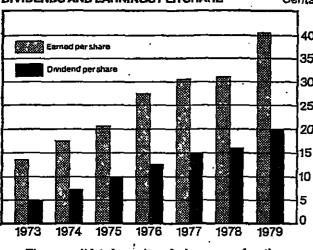


Pre-tax profits 55 per cent higher and exports set new record

From the review by the chairman, Mr. W. G. Boustred

The corporation's consolidated profit of R43 365 000 before taking into account deferred tax and minority interests was 55 per cent higher than the R27 976 000 earned last year. After deducting R14 656 000 for deferred tax and minority interests of R1 412 000 the attributable profit at R27 297 000 was 30 per cent higher than the 1978 result of R21 001 000. The attributable profit for the year was achieved after providing for net interest charges of R6 104 000 and depreciation of R16 337 000 compared with R5 937 000 and R13 029 000 respectively last year. In view of these results your board decided to increase the final divident to 14 cents a share making a total of 20 cents a dividend to 14 cents a share, making a total of 20 cents a share, a 25 per cent increase on the 16 cents paid last year. The total dividend for the year will absorb R13 553 000.

DIVIDENDS AND EARNINGS PER SHARE



The consolidated results of the group for the year include the profits of the Rand Carbide division for the twelve months to June 30 1979. This division was acquired in terms of the offer made to Rand Carbide shareholders in December 1978. It is worthy of note that all three operations, Highveld, Transalloys and Rand Carbide, achieved record profits for the year.

Due to the higher profit and lower investment allowances resulting from reduced capital spending, the amount of R14 656 000 transferred to the group's deferred tax provision was significantly greater than the R6 009 000 transferred last year. The accumulated provision for the group at R53 575 000 should ensure that the charge for tax in later years does not absorb a disproportionate amount of the income earned in those years. In terms of the group's current forecasts, both Highveld and Transalloys will become liable for normal tax during the next financial year.

In April 1979 the corporation repaid the 20 million dollar bond loan, the third and last of the major foreign loans. The loan was covered by a forward exchange contract and the repayment of R14 343 000 was funded by raising local short-term finance.

The strength of the group's cash flow is illustrated by the reduction in the group's borrowings from R82 943 000 as at June 30 1978 to R68 967 000 at June 30 1979 and an increase in cash balances of R7 928 000 notwithstanding the purchase by the group of Rand Carbide at R18 506 000 and capital expenditure for the year of R17 585 000. The group has continued to use both local and overseas short-term financing in preference to longer term loans with resultant greater financial flexibility and a lower interest charge.

year end the gro commitment had increased to R25 592 000 compared with R3 305 000 in 1978. The board approved R18 750 000 for the installation of a ninth prereduction kiln and an additional oxygen plant which will increase iron, steel and vanadium slag production by ten per cent by 1981. In addition R7 500 000 was approved for emission control equipment in the iron and steel works and at Rand Carbide. A further R5 500 000 will be required for this purpose in the new financial year and by the end of 1981 environmental control devices will have been installed on all production units at

At the beginning of the period under review, difficulty was experienced in marketing all the group's products because of adverse economic conditions both in the Republic and in the group's traditional export markets. As the year progressed, overseas markets for steel and ferro-alloys improved significantly and by the financial year end all the group's plants, with the exception of Vantra, were running

Group turnover of R268 411 000 was 55 per cent higher than last year and the total value of exports of R150 372 000 was a new record. It is pleasing to report that in November Highveld received the 1978 State Award for Outstanding Export Achievement in the Manufacturing Sector

Apparent steel consumption in 1978 for the world including the Communist Bloc increased by 5.9 per cent over 1977 to reach a new record level of 717 730 000 tons. This was mainly the result of record consumption in the Communist Bloc, Free World consumption being 5.3 per cent below the 1974 record level. Further world-wide growth of about 3 per cent is forecast for 1979 although Free World consumption to date suggests that the actual growth may be higher.

During 1978, production restraint coupled with U.S.A. trigger prices. European reference prices and the weakening of the dollar, led to a substantial improvement in steel export dollar prices. This strengthening continued into 1979 but the uncertain outlook, in North America in particular, has led to conservative buying patterns which, coupled with an escalation in freight costs, have recently weakened the net for both origin for steel exports. weakened the net f.o.b. prices for steel exports. However, changes in steel consumption tend to lag behind movements in the general economy and therefore a major downturn in U.S.A. steel consumption is unlikely before 1980 and only at that stage is the world steel industry likely to be seriously affected.

Highveld exported to many countries a record tonnage of steel products in the form of semis, sections and plate, representing 43 per cent of total steel sales. Profit margins on steel exports showed a marked improvement over the previous year making a significant contribution to the group's overall profitability. In 1978 the South African steel industry's earnings from steel exports exceeded R360 000 000 which was a major contribution to the Republic's foreign exchange earnings.

South African apparent steel consumption in 1978 increased by 14 per cent compared with 1977, but as the growth was mainly in the form of strip used in consumer products, Highveld's local sales were only 5 per cent above last year's. A further increase of about 6 per cent is forecast for South African apparent steel consumption in 1979 and there are indications that the markets for Highveld's structural sections and plate are continuing to improve. The decision to extend Sasol II has given a much needed boost to the South African steel and engineering

Highveld's steel production reached three-quarters of a million tons, some 8.5 per cent higher than last year's record, and it is pleasing to report that productivity continues to improve. Both rolling mills operated well and the total rolled products showed a 16 per cent increase

The world-wide recovery in steel production brought about a steady improvement in vanadium demand through-

out the period under review. Higher consumption resulted from increased activity in the production of line-pipe and construction steels in the U.S.A. and of line-pipe steel for the USSR. In Europe and Japan vanadium-bearing tool steel production was higher and the replacement programme currently under way in the world's commercial airline fleets increased demand for vanadium-bearing jet engine alloys. The substitution of vanadium for molybdenum because of the molybdenum shortage, and resultant higher prices, also stimulated consumption. These favourable factors resulted in record levels of demand in both the U.S.A. and Western Germany, the two biggest vanadium consuming countries. The industry was able to cope with the increased demand without distortion of the market.

It is expected that vanadium demand in the year shead it is expected that vanadium demand in the year shead will remain satisfactory not only because of consumption for steel production but also because of plans in the U.S.A. and West Germany to increase stockpiles of strategic metals and minerals. It is worth repeating that the world vanadium industry has ample reserve production capacity to meet even the most optimistic demand forecasts. RAND CARBIDE

In December 1978: Highveld acquired Rand Carbide at a cost of R18 506 000 and in terms of the agreement the profits of Rand Carbide for the period July 1978 to June 1979 are included in the results of the group.

The Rand Carbide division, based in Witbank, produces ferrosilicon, calcium carbide, Soderberg electrode paste, metallurgical char and other products associated with the steel and ferro-alloy industries, and its acquisition con-stitutes an extension of the product range of the group.

The division benefited from the improvement in worldwide ferro-alloy demand and by the second half of the financial year the plant was operating at full capacity on all products, with the export price for ferrosilicon particularly strong. Sales of metallurgical char and electrode paste to the Southern African ferro-alloy industry strengthened significantly in the second half of the year. In line with the group's intention to concentrate on ferroalloy production, the investment in the calcium carbide producer, Holland Electro Chemical industries (Proprietary) Limited, was sold in May 1979 at bock value.

The new division contributed 11 per cent to the group's earnings for the year compared with the forecast of 10 per

The export demand and prices for Transalloys' manganese and silicon ferro-alloys showed significant improvements throughout the year. As a result the plant operated at capacity for most of the year and both turnover and profit were at record levels.

Sales for the year increased by 81 per cent to R32 463 000 and exports represented 64 per cent of the total sales, compared with 59 per cent last year. The policy of continuing to strengthen the domestic base load in order to offset the fluctuations in export markets resulted in a substantial increase in local sales compared with the

INFLATION

For the second successive year the percentage increase in steelworks costs showed an encouraging reduction on the previous year, rising by 11 per cent compared with 17 per cent in 1978 and 28 per cent in 1977. The decision by the South African Railways to maintain railage rates throughout the year was welcomed and has made a major contribution to the lower rate of cost increases.

The increase in power costs at 5.9 per cent was considerably lower than that experienced over the past two years. In view of Escom's strong financial position, as outlined in their latest annual report, it is expected that power costs will show only modest increases in the next few years and this will greatly help the South African steel and ferro-alloy industries to remain competitive in world markets where tariff barriers are still a major obstacle.

Certain other important cost elements, however, continued to escalate at a high rate, such as Highweld's metallurgical coal the price of which increased by 16 per cent in February 1979.

Important and far-reaching changes in the South African industrial relations situation have recently been proposed by the Wiehahn and Riekert Commissions. These have come at a time when the South African economy is showing signs of recovery and the shortage of skilled persons is being increasingly felt.

The first report of the Wiehahn Commission has recommended that all employees, irrespective of race, be eligible for membership of registered trade unions, that individual trade unions be free to determine for themselves individual trade unions be free to determine for themselves who should be admitted to membership, that the Industrial Council and Committee systems be merged under one Act so that where both bodies exist they should be complementary to each other and that Government policy in respect of apprenticeship be changed so that any person with the appropriate qualifications will be eligible to be indentured through the normal channels. In addition the Commission has recommended that a National Manpower Commission be appointed to advise the Minister on all labour matters and that an Industrial Court be established with a wide range of judicial functions including the development by precedent of fair employment guidelines, precedent of fair employment guidelines

In response the Government has issued a White Paper accepting the general thrust of the Commission's recommendations and has made a number of amendments to the Industrial Conciliation Act.

While the Government's prompt and positive response to the recommendations is encouraging, there is cause for concern in certain specific areas. EXPANSION

As mentioned previously the Board approved the installation of the ninth prereduction kiln in the iron plant and the erection of an additional oxygen plant at a total cost of R18 750 000. This will result in an increase of approximately 10 per cent in steel and vanadium slag production. Plans are being prepared for the tenth prereduction kiln which will complete the existing iron plant and should result in an annual steel output in the region of 900 000 tons by 1982. All the additional steel region of 900 000 tons by 1982. All the additional steel can be processed in the plate mill without any significant capital expenditure being required. ENVIRONMENTAL CONTROL

The Highveld iron and steel works were designed some fifteen years ago and when built were fully equipped with pollution control devices. Since commissioning it has become increasingly apparent that these devices are inadequate, particularly in the light of significant advances which have since been made in the field, and the group is now confident that the new installations mentioned earlier in the report will lead to a substantial improvement in

OUTLOOK The group starts the new financial year with all its plants operating at a high level of production. However, the recent developments relating to the price and availability of oil could have a scrious effect on the economics of the developed countries and in particular could deepen of the developed countries and in particular could deepen and lengthen a recession that may have already started in the U.S.A. It could also retard the recent improvement in the South African economy. All these factors would adversely affect the markets for the group's products. Such uncertainty makes forecasting difficult, but the sound start to the year should ensure that profitability is at least to the year should ensure that profitability is at least maintained and if the world economy maintains a reasonable level of activity, there will be an improvement in the

The full text of Mr. Boustred's statement and the corporation's annual report are obtainable from Charter Consolidated 40 Holborn Viaduct, London ECIP IAI.

The annual general meeting of members will be held at 44 Main Street, Johannesburg, on Friday, November 2, 1979 at 12h.00

'Bondy' spearheads A\$20m uranium move in South Australia

BY KENNETH MARSTON, MINING EDITOR

had promised to allow uranium Siller, who has a long association mining within the state, the irrepressible entrepreneur. Mr. South Australia's energy rethis time uranium.

James Forth from

A group headed by Bond Cor-poration, and including Reef Oil, Basin Oil, Endeavour Resources Basin Oil, Endeavour Resources and Leighton Mining has contracted to purchase 14 per cent of the capital of Oilmin, 17.5 per cent of Petromin and 8 per cent of Transoil, all of which are partners with Pheips Dodge of the U.S. in the Beverley uranium denosit

Sydney.

Mr. Bond announced that it

AUSTRALIA'S mining and in-dustrial group, CSR has moved to the sharemarket to secure

control of the Western Austra-lian coal producer, Western Collieries following a rebuff of

AS2.6m (£1.34m), or 31 cents a share, and a lift in dividend to 22.5 cents from 16.5 cents a

share, and announced that talks with CSR on a possible bid had

onsidering its position. CSR already held 49.9 per cent of Western Collieries, obtained since 1974 through placements by the collier and by market nurchases. At the time CSR

purchases. At the time CSR announced it was holding take-over talks, Western Collieries

were priced at AS4.50.
When the Collieries Board announced the termination of

the talks, the price was up to ASS 20. Yesterday CSR entered the market and purchased the bulk of the 150,000 traded, mainly at ASS.74.

It is understood that CSR has

placed an order through the broking firm. Potter Partners for

of the capital, which would lift its stake to about 65 per cent.

Australia's Whim Creek Con-

solidated, the "Down-Under" exploration arm of Canada's

Northgate Exploration, yesterday

announced a A\$1.85m (£950,000) non-renounceable "rights" issue

to shareholders of approximately

3.7m new ordinary shares of 20 cents each at a premium of

One new ordinary share is thus being offered at 50 cents (25.8p) for every three shares held on October 10, 1979. Yesterday the London price of Whim Creek was 70n

Creek was 70p.

The new shares are payable in full at 50 cents per share on acceptance which must not be later than November 9.

Northeate Exploration has indicated that a relief the payable of the pay

indicated that it will take up its entitlement of 1,166,666 new

However, Canada's Westfield Minerals, another member of the Northgate group and also a major holder of Whim Creek,

has advised that it will not take up its entitlement of 833,333 new

shares. Westfield is taking this line

on the understanding that the underwriters to the issue will

place these shares within Austra-lia and thereby partly fulfil the wishes of the Whim Creek board

to increase the Australian con-

tent of the company.

30 cents per share.

Whim Creek

rights issue

It was also noted that CSR was

takeover talks initiated by CSR metal last month, reports James Forth.

The directors of Western Collieries at the weekend reported a doubling of profit to

CSR still chasing

Western Collieries

LESS THAN 24 nours after the panies. Preliminary discussions incoming Liberal-Country party had been held with the chairman Government in South Australia of the companies, Mr. C. W.

Alan Bond has spearheaded a had been advised that the Bond AS20m (£10.3m) fresh move on group would be available to work nad been navised that the Bond group would be available to work with them "at the appropriate time." Mr. Siller could not be contacted last night for his reaction: he was reportedly celebrating a sharp rise in the market price of all three com-panies in response to the election

per cent target

was intended to limit the pur-chase to a maximum of 25 per oxide with a good grade of cent in each of the three com-5,3 lbs a tonne, established in

three separate deposits.

Phelps Dodge, which has a 50 per cent stake with the three local companies jointly owning the remaining 50 per cent, would with the trio. be responsible for providing loan Mr. Bond said that Mr. Siller funds to mine and develop the deposits and to construct a pro-

cessing plant on site. Transoil-Olimen-Petromin are also involved in applications for two leases in the oil and gasresult in South Australia.

Based on yesterday's closing prices, the Bond group has paid more than AS14m for its contracted purchases and would lay out A\$20m if it reaches its 25 per cent targe?

Beverley has estimated reserves of 35m lbs of uranium

Attock link-up

with Metramar

by taking 1.1m of the former's ordinary shares at par (20

Attock will also have options over 305,000 Metramar shares at

a cost of 1 cent per option, these being exerciseable at 20 cents per share up to June 30, 1982.

It will be recalled that South

Africa's Anglo American Corporation giant joined Metra-mar in 1972 as a major partner in the latter's ill-fated Blue Spec mine at Nullaging in Western

Australia. Blue Sper began life as an antimony-gold prospect, then became regarded as a gold

antimony hope and ended up as a poor "spec" for all concerned.
Attock, however, is interested in Metramar's oil and gas exploration. Lord Torrington, managing director of Attock said: "Any involvement in oil exploration in Australia makes it essential to have local nathers.

essential to have local partners. We yow forward to creating a

successful and profitable rela-tionship with Métramar."

Metramar has a 20 per cent stake in a Bass Strait exploration permit and has interests in con-sortia with-farm-in arrangements

in the Surat and Georgina Basins in Queensland Metramar

fields of Mereenie and Palm Valley in the Amadeus basin in central Australia, but problems in negotiations with the Aboriginal Central Lands. Council over royalties has prevented any development.

the move was in line with the group's current intention of nvesting in energy resources. The main attraction of the trio was the Beverley urunium deposits and the Mercenic fields. The latter venture was particularly attractive because of its close proximity to the Cooper basin natural gas and oil fields. Mr. Bond attracted attention in August last year when a consortium, substantially the same as that which has invested in

as that which has invested in the Oilmin group, purchased the Burmah Oil group's stake in the major Cooper Basin partner, Santos, for AS36m. Bond acquired 37.5 per cent of Santos, 30.86 per cent of Basin Oil and 88.96 per cent of Reef Oil Whim Creek gives no reazon for the new issue. The company is actively involved in diamond exploration in the Kimberley region of Western Australia and has interests in various basemetal and gold prospects in that

in the deal.

The South Australian Government subsequently passed legislation restricting the maximum holding in Santos to 15 per cent and the Bond group has been ordered to reduce its holding, although it is challenging the nove through the courts.
The incoming Liberal-Country BRITAIN'S Attock Petroleum is to acquire a 10 per cent interest in Australia's Metramar Minerals Party government has already

stated that it will not undo the organisation.

Santos legislation.

Along with the Oilmin moves yesterday.

day that Basin and Reef would call the balance of monies mu-

standing on all partly paid This would involve the Bond group in payments of A\$2.39m to Recf and A\$3.2m to Basin. The directors of the oil companies said they were investigating the possibility of making part of the call payment tax rebuteable in the hands of shareholders.

Minorco pays the same

AN UNCHANGED final dividend of (U.S.) 8 cents (3.7p) to main-tain the total for the year to June 30 at 12 cents, is declared Mr. Bond said last night that by the Anglo American Corpora-tion group's Bermuda-registered Minerals and Resources Corporation (Minorco).

Net profits of the investment company amount to \$34.4m (£18.1m) against \$13.6m. But it is pointed out that the respective annual results are not comparable because with effect from July 1, 1978, results of Zamzagio Industrial Corporation have not been consolidated owing to the fact that profits are not freely remittable from Zamhia at the present time.

As a result of a merger between Inspiration Heldings 2nd Inspiration Consolidated Copper, Minorco and Hudson Bay Mining and Smelting now equally own

all of the common stock in Inspiration Consolidated Copper. Minorco also states that it has recently negatisted a \$50m multi-currency term loan over 10 years with a consortium of inter-national banks. There is, however, no mention of the muchrumoured plans for a major reorganisation of the company. Minorco shares were 237p

Clydesdale Bank Limited



has been appointed Registrar of The Scottish Western **Investment Company**

Limited The Caledonian Trust Company Limited The Clydesdale Investment **Company Limited** The Second Great Northern Investment Company Limited **Glenmurray Investment Trust Limited** Glendevon Investment Trust Limited:

All documents for registration and correspondence should in future be sent to The Registrar Clydesdale Bank Limited **Stock Exchange Services** Department 30 St. Vincent Place Glasgow G1 2HL

Telephone 041 226 3014

shares were around 111p yester Silvermines is

doing well intermines continues its strong recovery with a net profit for the half-year to June 30 of Irish £335,218 compared with £136,225 in the same period of 1978 when the year's total, after allowing for second-

total, after allowing for second-half losses, was only £29,859. Eardings for the latest period amount to 3.98p per share and an interim dividend is declared of 1p. For 1978 there was an interim of 0.5p and a final of

ip. The The performance of the Anglian Windows subsidiary remains strong, while the 25 per cent-owned Mogul of Ireland lead-zinc mine has provided a profit share of £252.152 against a loss a year ago of £37,184. However, because of lower metal prices, the mine is expected to operate at a lower profit for the rest of this year.

Alusuisse of America, Inc.

the United States subsidiary of

Swiss Aluminium Ltd.

has acquired more than 95% of the outstanding Common Stock of

Maremont Corporation

The undersigned acted as financial advisor to Alusuisse of America, Inc. in connection with this transaction and as Dealer Manager of its tender offer.



The First Boston Corporation

August 16, 1979

BIDS AND DEALS

Spillers/Dalgety—the arguments still rage

BY RAY MAUGHAN

FIRING ONE of the last salvoes before its £70m share offer for Spillers first closes on Friday, Dalgety has attempted to dismantle the income argument for rejecting the bid.

Dalgety concedes that shareholders would receive a 2 per cent higher dividend by staying with Spillers as the situation stands, but the bidder states that it "intends to continue a progressive dividend policy," pointing out that its dividends have risen by 63 per cent since 1975, after allowing for inflation as measured by the retail price

In a document posted to Spillers' shareholders yesterday Dalgety doubts whether the defender would increase its own distribution next year "in view of the heavy capital expenditure, programme the Spillers Board has announced and the forecast decline in profits of Spillers' condecline in profits of Spillers' continuing activities."

The bidder ponts out that, in view of a forecast profit of "around" £15m for the current period, Spillers' profits "are lower than the profits earned four years ago." At that point, Spillers made £18.4m from con-

tinuing activities.

The document stresses once again the "substantial growth of Dalgety's businesses overseas" and points out that "in the four years since 1974-75 earnings per share and dividends of the Dalgety Group have increased nearly threefold."

They supply scientific instru-

ments, chemicals and appartus, holding a number of important

agencies for Australia; and have

branch offices, service and distri-bution centres in all States.

The acquisitions are the first stage of Fisons' plan to expand its scientific equipment interests in South East Asia and Austral.

version rights on £2.77m

Stewart Wrightson Holdings 74 per cent unsecured loan stock.

S. G. Warburg and Co. is now beneficial owner of 5.53m Stewart Wrightson spares (30.49

per cent registered in the name

CAKEBREAD ROBEY

Clark Hunt, a subsidiary of Cakebread Robey, has signed

conditional contract for the possible sale of houses and free-hold land to Fairview Estates

SGR Group has acquired assets

(Investments) for £250,000.

SGB PURCHASE

of Mercury Securities.

STEWART

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available as to whether dividends are intorins or finels and the sub-divisions shown below are based mainly on last your's timetable.

TODAY TODAY

Interims:—Aurora, Bank of Scotland, Bodycots International, Corinthian Holdings, Ibstock Johnson, Inversek, Law Land, Bernard Matthews, Rolls-Royce Motors, Rosedimond Investment Trust, Royce, Wills Faber.
Finals:—Elder Smith Goldsbrough Mort, Mills and Allen International, Ricardo Consulting Engineers, George H. Scholes, Zetters.

	PUIUNE DAIES		
•	interims:—		
	Alva Investment Trust	Sep.	2
3	Barr and Wallace Amold Trust Brent Chemicals	Oct.	
3	Brant Chemicals	San.	•
_	E.C. Cases	Sao.	•
T	Hall Engineering	San	
В	Legal and Conecal	SAR	
1	Legal and General Liverpool Daily Post and Echo	San.	•
	Liverpoor Delty Foot and Cano	Can.	
t	London and Manchester Assur. Menzies (John)	na.	•
-	Metairax	Can	
	Wamilex	oap.	1
	Oil Exploration	œρ.	
1			
	Ready Mixed Concrete	gap.	•
Ē	Rotork	Şep.	ā
t	Silkolene Lubricants ,	OCL	
-	Summer (Francis)	Sap.	2
9	Tilbury Contracting	56p.	1
1	UDS	Sap.	•
	Finals:—		
	Barlow Holdings	Sep.	1
-	Chambers and Fargus	Sep.	
	Goodman Bree and Stockman	SRO.	3
•	Lydenhurg Platinum	5 0 0.	1
	Parker Knoll	Sen	
E	Scottish Metropolitan Property	Det	
-	contribit Indirection of the		

Dalgety states that it has formula of development of its substantial and profitable busi-

operations

CLUFF EXPANDS

Cluff Oil now holds 45,870

ordinary shares (11.4 per cent) and 19,410 "A" ordinary shares

(19.4 per cent) in Graig Ship-ping. On September 12 Outwich investment Trust disposed of its holding of 25,000 ordinary and 10,000 "A."

Graig shares as an indirect way of obtaining an interest in on-shore oil and gas exploration in

BRENTNALL BEARD

Beard (Holdings), the insurance

broker, have approved the sale

of business and certain assets of Brentnall Beard and Co., a

wholly owned subsidiary, to Hogg Robinson and Gardner Mountain.

Associated Dairies Group: Mr.

of 40,000 ordinary shares thereby reducing holding to 90,604 (0.076 per cent).

Five Oaks Investments: Mr. J. R. Waldron, director, acquired 70,000 ordinary shares on September 1.

Baddiley, director, disposed

SHARE STAKES

Shareholders of Brentnall

the South of England.

INTEREST IN GRAIG SHIPPING

A\$10m Australia.

of new businesses and their integration into an efficient and effective whole, "should once again be applied following the merger with Spillers."

have been planning a major UK expansion for Dalgety for a considerable time," the document adds, "We have the organisation and resources to maximose the very real abilities of Spillers' operating manage-ment. We have every intention of maintaining and developing Spillers' business." instituțienal

major institutional share holders, have been told by the Takeover Panel last week that they may not seek a collective meeting with Dadgety through a special committee set up by the National Association of Pension Funds, have been meeting on a individual basis with the bidder' chairman, Mr. David Donne, and next Monday to approve the bid and Mr. Gordon Burwood, chair-

share-

letter was highly misleading, and again urged shareholders to ignore the offer. It claimed that Dalgety's management had "hopelessly inadequate experience" of the UK food industry, and that Spillers was poised for

crease profits, the statement con-cluded. Dividends should follow

Simon Eng. first half profit and turnover up

FROM TURNOVER of £133.97m gress in the second half and, for against £109.34m, profits before the time being, the process plant in the first six months of 1979 and the directors are lifting the interim dividend by 1p to 4p per

the first half that were achieved in 1978, the spread of activities stands the group in good stead and reasonable growth is still expected this year.

Main activities of the group include specialised machinery, process plant contracting, mer-

		212
le i		197
at i		EDD
	T	133.9
e	Turnover	133.3
	Trading profit	6,3
a	Associates profigts	2
e i	Interest	6,3 2
		7,Ž
B	Profit before tax	1,4
	Tax	3,1
n i	Net profit	4.0
's		4,0
	Minorities	
d	Attributable	3,7
_	Preference dividends	
	Ordinary—interim	9
- a	Orginary—Interim	•
et		

comment

A warning that Simon's first half orders were down on 1978 levels might, when coupled with the effects of the engineering strike, signal a profit shortfall this year. But, with the exception of the process plant contracting division which enjoyed remarkably buoyant conditions hast year, the group is shead of 1978 so far even if orders have fallen behind 15 per cent pre-tax improvement on a 22 per cent rise in interim turnover and that takes in little or nothing from acquisitions. Unichem was only acquired last March, Krause is too small to be significant, Alien and Garcia is breaking even and the UK end of Gordon Johnson Stephens is still proving troublesome. The

merchanting and storage division

taxable profits of Ransomes,

Sims and Jefferles, machinery manufacturer, fell slightly from

£1.27m to £1.19m for the first half of 1979. Turnover rose £2.47m to £19.75m.

And the directors say that the

effect of the current national engineering dispute, together

with the strengthening pound's

effect on exports, and on imports by competitors, has been

seriously to erode their expecta-

Surplus for the whole of 1978 was £2.57m (£2 25m).

Half-yearly earnings per £1 share are sown as 17.4p (18.5p), and the interim dividend is raised to 3.14p (3p) net.

Also announced is an addi-

tional payment of 0.29p for 1978, on the reduction in ACT, which

coosts that year's total to 9.87p.

Despite the loss at Dorman, the

directors say that sales and profits of the group would have been materially higher had it

not been for strike action earlier in the year at domestic level, which has now been resolved.

Sales of professional grass

cutting machinery, which accounts for 50 per cent of group

turnover, have been limited primarily by the company's inability to achieve planned pro-

Action is being taken, the

directors state, to increase output

duction levels.

full year:

against £109.34m, profits before the time being, the process plant tax of Simon Engineering contracting operations are unimproved from £6.31m to £7.25m affected by the engineering disaffected by the engineering dis-pute. The proceeds from the May rights issue will boost interest receivable and Simon share.

Last year, a total dividend of 19.0652p was paid from pre-tax profits of £16.61m.

The directors say that although the group did not reach the very high level of orders in the very high level of orders in the promised dividend is 6.3 per cent—that looks about right.

Amalgamated Industrials profit increase Pre-tax profits of Amaigamated

industrials increased from £1.28m to £1.45m for 1978 on turnover of £13.65m against At halfway the group, wholly-owned by Seton Trust, had advanced from £782,000 to £810,000.

£810,000. Pre-tax figure for the year was struck after development expenditure of £297,000, compared with £370,000, and was before tax of £1.22m (£887,000). The attributable balance came through at £292,000 (£224,000) after an extraordinary credit of £122,000 (£133,000 debit), and winorities

Car Care group linked with Lloyd's

Leading mechanical break-down insurance specialist, the Car Care Plan Group, announces that it has linked up with Lloyd's of London for the underwriting of its various mechanical breakdown insurance contracts. At the same time, the group has extended its cover to fleet-

Ransomes Sims slips midway

and gives warning on year-end

INCLUDING A £199,000 loss for duction is being cut back to up to 98 per cent over the next the period from Dorman Sprayer, balance stocks.

In order to maintain profit

margins, steps have been taken

but the full effects of this action

to materially reduce overheads, will not be apparent until 1980,

Six months tax takes £240,000

against £260,000 leaving net profits down from £1m to £948,000.

There was an extraordinary

1 Debit.

At the time of the Dorman acquisition the directors were

aware that the company was not operating on a profitable basis, but recognised it was an impor-

tant area of activity in which the group should be engaged.

They say the period since acquisition has coincided with a

time of lower demand for farm

machinery, however they are satisfied that the action which

has been taken since acquisition—to develop new products, to

rationalise production facilities and to reduce overheads — will

ensure a satisfactory future for

On September 7 the group acquired 16 per cent of the shares of Wisconsin Marine giving it a total holding of just over 50 per

this company.

cent.

credit of £35,000 for the

tion of improved profits for the compared with a £60,000 debit.

operated by leasing companies, an area that until now has been excluded from most sources of extended-warranty protection. Car Care Plan offers insurance cover to fill in the gaps left by the motor manufacturers in the warranties provided against mechanical breakdown in cars. The company has extended this to breakdown cover beyond the period covered by the manufac-This insurance is now avail-

able for every sector of the new and used car market from the year-old company limousine to the high-mileage family car changing hands after many years. The mechanical breakdown insurance provided by the group insurance provided by the group will pay up to £350 per claim for parts and labour, plus up to £70 for car hire and £30 for towing-in. The premium charged for this cover is £47.50 per car and applies irrespective of the number of cars included in one contract.

Radio Rentals moves ahead to £35.68m

Profits before tax of Radio Rentals (Holdings), a subsidiary of Thorn Electrical Industries, moved ahead from £31.23m to £35.68m for the year ended March 31, 1979, with £18.86m against £16.83m coming in the Turnover for the year rose by some £17m to £140.94m. Profits were after depreciation charge down £3m at £5.58m and hire of TV sets from immediate parent company of £28.08m (£22.55m). After tax of £17.27m against £14.93m, net profits were up from

£16.3m to £18.41m. The group is engaged in renting and selling television and radio sets and the distribution of radio and television programmes

Ransomes, Sims and Jeffries will

have to run very hard to main-

tain profits this year. Caught in the cleft stick of insufficient

by adverse exchange rates and

more recently, by the engineering strike. To add to all of this,

Dorman Sprayer has suffered

hefty first-half losses and group

profits have failen by almost

per cent. Interim turnove: improved by over 14 per cent but

earlier in the year. At this point, it is difficult to determine just

what the domestic dispute cost

and how badly RSJ will be affected by the national strike.

The acquisition of Dorman presumably argues for some capacity rationalisation in the

farm machinery division which, in 1978, was principally responsible for a 31 per cent rise in monetary stock values. Action,

so far unspecified, has been taken to cut overhead costs but

the full benefits are not expected until next year. The shares,

having been trading near the annual low, fell further yester-

day by 5p to 138p. All that might reasonably be said at this stage is that the historic yield of 10.3

per cent accounts for many of the problems the group now

faces, as does a minimum fully taxed historic p/e of 6.1,

complete in two-and-a-half years.

Construction is expected to start next year of the Town Centre

The chairman says that while

the policy to reduce the dependence of house building

the company is committed to building houses as part of its

overall long-term strategy for

continuing growth. The com-pany has land stocks for at least

six years' development and in

seeking further sites in selected

Shopping Scheme for Hanley.

comment

Jentique rises to £573,000

TAXABLE PROFITS of Jentique (Holdings), furniture and clock maker, improved from £245,564 to £280,198 in the second six months ended June 30, 1979, giving a full year figure up from £403,764 to £573,158. Turnover rose by £2.83m to £11.9m. The directors state that already been declared improved business is expected Gross revenue was towards the Christmas period, but the scale is difficult to

They add that trading condi-tions will remain very competi-tive, but they are confident that the products of both manufacturing subsidiaries, backed by substantial current investments, will maintain their market

Tax takes £169,786 (£103,718) and earnings per 25p share are shown ahead by 1.3p to 5.1p. A final dividend of 1.45p raises the total payment from 2.209p to 2.47995p net.
Comparatives have been restated to take account of changes in accounting policies.

English and Scottish rises

at £281,704 for the half-year to July 31, 1979, after tax of Stated earnings per 25p share the net asset value at half-time reached 103.9p (98.9p). A net interim dividend of 1p (0.6p) has Gross revenue was up from £686,285 to £787,358.

Jos. Holt rises to £444,810

PRE-TAX profits of Joseph Holt. the Manchester-based brewer and wine and spirit merchant, For the whole of last year, the surplus reached a record £802.505.

After tax for the half-year of £231,300, against £197,000, net profit came through ahead from £181,901 to £213,510. The interim dividend is doubled to 2p gross—last year's total payment was 3,62358p gross.

Bad winter and start-up costs hit J. B. Hldgs.

PROFITS BEFORE tax of J. B. greater value of work in the UK. Holdings, the construction and The road surfacing and road-mechanical engineering group, stone companies have good order mechanical engineering group, fell from £957,000 to £864,000 in the first half of 1979. Turnover was higher at £13.53m, against

The directors say the profit reflects the bad winter which hit the results of the civil engineering, road maintenance and civil engineering supplies companies. In addition, the results include the starting up costs related to the group's investment in factories to produce concrete and Armailo glass reinforced the light of the year's results. resin pipes in Jordan. Both Last year's total payment was these ventures are now operating profitably with good order of £2.81m (£2.7m).

overseas and is securing a against 4.31p.

books and should have success ful results over the year. The group has recently received two significant overseas contracts for Armafio pipes, and the engineering companies con-

tinue to achieve a good level of

orders from home and overseas markets.

The net interim dividend is hoisted to 1.5p (0.5p) per 10p share. The directors say a decision on the final will be made in

prospects.

Order books are currently satisfactory, they say. The civil engineering company has obtained two further contracts per share are given as 3.65p,

The Post Office Prestel Service production in the areas where it can sell freely and facing high stock levels in markets which have weakened, the group has been jammed further up the fork and Pye TMC both sales and trading profits would have been "materially higher" had it not been for an internal industrial dispute With the introduction of the first business Prestel service in the London area from 11th September Pye TMC Limited is offering their purpose-designed business terminal VISA", to receive the wide range of information now available from the Post Office Centre. For continuous demonstrations of VISA pay a visit to BERRY'S RADIO, the well-known hi-fi and TV shop at 319 High Holborn, London WCI. Fully approved by the Post Office for connection to the Prestel service. Pye TMC Limited, Swindon Road, Malmesbury, Wilts. Tel: Malmesbury 2861

in those companies where demand continues at a high level. However, in certain others, proalthough the correction may have Ransome's intends to acquire, in equal instalments, the balance Federated Land up to £0.47m but borrowings are rising

after sharply higher interest of £735,000 against £378,000. Net rents from investment properties umped from £54,000 to £398,000. Mr. James Meyer, chairman. says that, with the company actively increasing its long-term investment in commercial developments, its borrowings are The chairman says that these rising. This, together with additions to general reserves higher interest rates, will sub-allow the directors to feel con-

stantially increase the interest to be written-off. This will have a sizeable impact on the second-half profit, he adds. But the directors hope the surplus for the next half will not be lower than that achieved in the first six months. stepped up from 0.8p to 1p—last For the whole of 1978, taxable year's total was 2.73p. Earnings

For the whole of 1978, taxable profits were £923,000. For the half-year there is an risen from 1.8p to 4.4p. exceptional credit of £77,000, representing the suplus on sale of land less tax. The sharply lower tax charge of £81,000 (£228,000) is after crediting

TAXABLE PROFITS of Federated Land and Building Comon plant and fittings installed in started the development of the pany rose from £420,000 to an investment property.

The extraordinary credits of Leatherhead, which it hopes to The extraordinary credits of

£2.16m have been transferred to general reserves. These comprise a £1.71m provision for deferred tax no longer required; and a £449,000 net surplus on disposal of the company's interest in three of its smaller commercial developments.

The chairman says that these

fident that. When the revaluation of the company's commercial developments is carried out during the next six months, it will reveal that the net asset value will exceed £12m.

The net interim dividend is per 25p share are shown to have Commenting on commercial developments, the chairman says

this year sees the completion of the Out-of-Town Shopping Centre in Kent, which is trading

RESULTS AND ACCOUNTS IN BRIEF

RESULTS AND ACCOUNTS IN BRIEF

ALBANY INVESTMENT TRUST—Gress revenue half year ended August 31, 1979; 633,091 (167,520). Internm division and OHED (0.45p). Asset value 43,35p (42,37p at February 28).

ANGLO AMERICAN CORPORATION—Cond division sales output for August (figures in metric tons). Republic of South Africa: Bituminous: Angle American Coal Corpn. 2,837,028. Other Collegence: Vierconize in 32,469; Zuingust (216,570). Broom tax 257,154 (216,570). Anthracitic: Natal Anthracitic: Natal Anthracitic: Natal Anthracitic: Vierconize in 32,469; Zuingust (45,55m at year-end). Intarim divisions 13,067. Anthracitic: Natal Anthracitic: Na

white and 23.00 (200) per capital share.

Whiteworth Electric (HOLDINGS — Turnover for year to March 31, 1979, \$10,577,298. Net profit \$180,921 after all charges and tax of \$205,878. Earnings per share 4.58p. Dividend 21 per cent. Pay December 17.

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1 Pudding Lane, London, E.C.3.

of the formwork division of N. F. Brooker (Pty), Sydney 70,000 ordinated subsidiary of Acquila tember 9. Louis NEWMARK The Chairman, Mr. Geoffrey Newmark, reports:-

 As forecast, the last six months of the year were adversely affected by industrial disputes. However, by good husbandry we were able to some extent to minimise the idverse effects of these and as a result our profits show only a slight drop on our record previous year.

 In view of the difficult year from which we have recently smarged you should know that during this period we have pursued a policy of new plant selection and application, improved our general facilities, and moved steadily into w fields with products based on current technology. We have already introduced several types of sophisticated computer controlled machinery as an introduction to our

capital investment programme. In the field of metrology we continue to make considerable strides in the application of electronic gauging in both discreet and system applications as

inspection aids and are currently studying the use of micro processors and other forms of display units. We are currently developing both helicopter and fixed

wing control systems for new aircraft making use of updated sensors and their allied electronics. Your Components Divisions are designing and developing components for applications which are directed towards the use of micro processors and to meet requirements in the computer, telecommunication, business machine and

general professional instrument industries. The analysis of the Group turnover and profit shows in the case of merchandising an increase over the previous year. The main contribution came from the improvement on our Watch side which was as a result of steps taken by the Board and I am pleased to report the growth is being maintained in the present year.

 Mr. J. D. Price succeeded Mr. D. D. Rothschild as Managing Director of the Group on 12th September, and Mr. M. C. Martin succeeded my brother Herbert as Deputy Chairman. On that day also Messrs. W. H. Arkinson, H. Collomosse and R. E. Hunt joined the Board of Directors: Mr. H. A. Lewis retired as a Director but

Salient Figures:	1979	(£0003)	1978	(£000's)
certair Maries	Profit	furnover	Profit	Turnove
Manufacturing	1,420	18,009	1,690	16,888
Merchanting	559	8,534	437	5,857
	1,979	26,543	2,127	23,74
Profit after Taxation	923		1,009	
	923 	•	1,009	
Ordinary Dividend per share	9.00p		6.72p	

Copies of the full report can be obtained from the Secretary.

caster Road, Croydon CR9 2LD

Major

other members of the board.
Dalgety's shareholders me man of the committee, had talks with Dalgety last Thursday. In a statement last night, Spillers said that the Dadgety

The purpose of Spillers' capital spending programme was to in-

Fisons Australian acquisitions Fisons has acquired Tosco of Steel Company, for A\$2.1m Melbourne and Townson and (£1.08m). Mercer (Distributors) Pty of This doubles the size of the Sydney, which have a combined company's operations in Carlton Industries: Mr. L. Roydon, director, disposed of 80,000 ordinary shares reducing his interest to 1,657,656 (6.26 per

Comet Radiovision Services: Mr. W. J. Mason, director, dis-posed of 30,000 ordinary shares reducing holding to 219,000 (0.81

Goodyear Tire expects third quarter loss

AKRON — Goodyear Tire and Rubber will report a loss for the third quarter because of provisions for the planned closure of two of its oldest plants, and the depressed car tire market.

In the 1978 third quarter, the company earned 62 cents a share. In the first half of 1979, it earned \$1.40 a share.

In August, Goodyear announced plans to phase out operations at its Los Angeles tyre plant and a subsidiary tyre plant in Conshohocken. Pennsylvania, over the ensu-mg six months to adjust capacities to the declining bias tyre market.

It said that the third quarter results will include the provision covering the closing of these plants, but did not give any estimates of what the provision will be.

Mr. Charles J. Pilliod, Jr., chairman of Goodyear said earnings for the third quarter were also affected by a five week strike by the United Auto Workers union against the corporation's aerospace

facility in Akron.

Despite the easing of the gasoline situation in recent months, motorists continued to be concerned about the price of gasoline and the supply uncertainties," Mr. Pilliod said, adding that this renewal tyre purchases.

He said that the decline in sales and productions of new cars, stemming from the manufacturers' inability to supply the small cars which are in demand, has also effected the sales of original equipment tytes. Reuter

SEC options moratorium

WASHINGTON-SEC officials said the securities industry is making progress on options rules sought by the Commission, but the SEC's options moratorium will probably continue to the end of this year. Earlier this year, Mr. Harold

Williams, the SEC chairman indicated that the moratorium on the expansion of options trading could be lifted by August. Mr. Williams today acknowledged that the agency had missed the August deadline but said that prospects for ending the moratorium remain good. The estimate of Commission

action on the moratorium by year end was offered by Mr. Douglas Scarff, an official in the SEC's division of market regu-lations. He said that the stock exchanges are currently seeking to develop rules governing op-tions sales practices as well as develop improved procedures for policing options trading

24 carton

\$200m to

settle case

TWENTY-FOUR OF the

largest US carton making

companies have agreed to pay

more than \$200m in settle-

ment of a longstanding anti-

One of the companies, Brown of Pasadena, yester-day reported that it had paid

\$5.16m to cover its share of

the settlement. The payment,

however, is not included in

the company's year-end oper-ating net of \$22.3m, which

makers pay

NORTH AMERICAN NEWS

Chemical plant plan by **Petrofina**

By Our Montreal Correspondent PETROFINA CANADA, 72 per cent owned by Petrofina S.A. of Belgium, is considering construction of a C\$15m (U\$\$12.96m) polystyrene plant next to is Montreal refinery. It would have a capacity of 35,000 metric tons a year and he operated by a Canadian subsidiary, Finachem Lanaua, which is 51 per cent owned by Petrofina Canada and 49 per cent by a U.S. unit of the parent Belgian group. Petrofina Canada expects to double its earnings to about C\$5.25 a share for 1979 from C\$2.37 in 1978. Operating revenues will be about CS725m AP-DJ adds: Mr. Pierre Nadeau, chairman of Petrofina Canada, said that analysts' estimates that the company will earn about C\$5.25 a share this year—or more than double the \$23.7m in 1978 are "conserva-

"Unless the roof falls in, we'll make that target easily." he said. He also indicated that operation revenues will climb to about C\$725m from C\$591m

In the first half of this year, Petrofina Canada's net was C\$31.4m or C\$3.13 a share on revenue of C\$365m—a jump from the C\$8.3m or 83 cents on revenues of C\$286m in the yearago period.

Elaborating on the Montrealbased integrated oil company's recently reported acquisition of a 5 per cent interest in the syncrude oil sands project, Mr. Nadeau said that the C\$185m acquisition from Alberta Energy doesn't at the moment change our interest in the Alsands project" in which Petrofina Canada holds an 8 per cent interest.

Rejection for **IBM** request

NEW YORK-The Federal Appeals Court has denied a request by International Business Machines Corporation for a temporary stay in an anti-trust case brought against it by the Justice Department.

The court denied the request pending its decision on a motion by IBM to remove Judge David Edelstein, who is presiding over the mammoth anti-trust case in Federal District Court.

IBM has filed a motion with the Appeals Court, stating in Court papers that it wants Edelstein removed for allegedly showing bias and prejudice towards the company.

Quebec refuses aid for closed ITT Rayonier mill

BY ROBERT GIBBENS IN MONTREAL

THE QUEBEC Government has pulp (used in rayon production the mill workers. About 1,300 declared that it will not go to mainly) in the early stages, the the aid of Rayonier Quebec whose mill at Port Cartier, 650 miles north-east of Montreal, has been shut down because of heavy operating losses and a strike which has lasted since the beginning of June.

Rayonier Quebec is wholly-owned by ITT Rayonier of the U.S. The mill, plus woodlands development, cost nearly C\$400m, and was opened in 1974. Because of labour and technical problems, plus poor market conditions for dissolving

operation has accumulated losses of around C\$300m.

The Federal and Quebec Governments together have a direct investment of about Quebec Government, through its own forestry development company, Rexfor, has about C\$20m start until 1998.

The Canadian paperworkers' talks with the union covering lower St. Lawrence.

work in the mill and woodlands. The union also urged the Quebec Government to consider taking over control of the mill.

However, Mr. Yves Berube, the Lands and Forests Minister, C\$40m in the mill, and the said the shutdown was a "business decision" by ITT Rayonier and the Government will not consider a takeover or special in equipment leased to the mill help. The Port Cartier mill was on which repayment does not a project promoted by the previous Liberal Government in

Deere to lift spending abroad

BY OUR FINANCIAL STAFF

DEERE AND CO., the farm sales outside the U.S. are being be used to expand tractor capa-equipment group, said it will hit by a drop in demand and city at the Mannheim, Germany, spend \$350m on new overseas rising costs. A month ago the facilities over the next five company announced that a new components factory at years, more than double the \$160m spent in the five-year period ending October 31. The company made the announcement in a statement marking the introduction of a new line of German-built tractors. It said the nine nine tractor models, ranging from 35 to 100 hp, represent an investment of \$40m and are the foundation of its overseas

marketing strategy. The decision comes at a time when retail farm equipment

BY OUR FINANCIAL STAFF

A FEDERAL Trade Commis-

pigment market was not "un-fair within the meaning of the

Trade Commission

Judge dismisses FTC

charge against Du Pont

sion allegation that the Du cent of the U.S. production of Pont chemical company had titanium dioxide. The substance

three months to July 30, restricting overall group profit growth to 161 per cent.

three months was \$96.97m comnet earnings for the first nine months of the latest year to \$271m, or \$4.47 a share, some 23 per cent above last year's Deere said the funds would

tion, accounts for over 40 per

ing in the U.S. market.

The Commission said yester-

foreign operations turned in Bruchsal in Germany, to in-losses totalling \$12m in the crease tractor capacity by 20 to expand capacity by more than 15 per cent at its engine Group net earnings in the factory in Saran, France.

Deere has completed con-struction of a new combine pared with \$83.06m for the struction of a new combine same period in 1978. It took assembly plant in Zweibrucken, Germany and a tractor factory in Venezuela is nearly completion with initial production ex-pected in early 1980. It said the Bruchsal depot will cost about

compares with \$6.5m in the 1971 and supported by the previous year. union has called the shutdown Federal Government to provide "blackmail" and has urged the more jobs and economic activity Sales last year were just over 16 per cent higher at Federal Government to provide company to re-open contract in the north shore area of the \$573m. Earnings per share work out at \$3.12 against 91 cents in 1977-78.

cents in 1977-78.

In approving the anti-trust settlement, two District Court judges said that customers of the folding carton companies would receive damages from a fund of \$200m plus more than \$10m accrued interest.

The case began in 1976 The case began in 1976 when the manufacturers were accused of conspiring to fix prices. Civil damage suits were preceded by Govern-ment indictments against 21

of the 24 companies. The 24 companies involved in the settlement have consistently denied any wrongdoing, but said they had agreed to the terms to avoid further legal expense. A court statement said that

there had been overcharging over 14 years and that 2,300 claims had been filed against the manufacturers.

First Eurodollar placing by U.S. loan association

monopolised an important is used as a brightening agent sector of the pigments market for paint, plastics and certain was dismissed yesterday. An administrative law judge for the Commission ruled that of using its pricing mechanism for the product in such a way the first private placement of U.S. savings and loan association

ducers and foreign competitors were discouraged from operatment, arranged through S. G. Warburg and Paribas, with the assistance of Warburg Paribas Du Pont, according to the day that an appeal to the full riginal Commission allega-Commission was possible. was possible. Becker of New, York, have not

EUROBONDS

BY FRANCIS GHILES

CALIFORNIA FEDERAL Sav- been disclosed but are under ings and Loan Association has stood to be identical to those arranged what is believed to be which the borrower would have paid had it raised money in the unsecured certificates of deposit New York market (between in the Eurodollar market by a 10.75 and 11.25 per cent). The U.S. savines and loan associamaturity of the CDs is longer than one year.

The borrower is the fourth largest savings and loan associa-tion in the U.S. but the largest federally chartered one. Its placement suggests that a market exists in Europe both for secured and unsecured CDs

for such borrowers. Were this funding operation to be followed by others, it would signify an alternative source of finance for U.S. savings and have raised funds domestically Last July, the Federal Home the savings and loan associations, put forward proposals which, if adopted, would allow the associations to raise funds mortgage holdings. The comple-tion of this first operation suggests, however, that the larger U.S. associations could

DIM hands

in demand

DEMAND for foreign Deutsche-D-mark denominated foreign bonds are currently being

raise funds in the Eurodollar market on an unsecured basis.

The Brazilian State oil com-pany. Petrobras, is arranging a DM 125m public issue of 10-year bonds through Westdeutsche Landesbank. The borrower is paying a coupon of 8 per cent of eight years.

Deutsche Bank, meanwhile, is arranging three private placements for European borrowers. Two are for Eurofima, the European railway stock financing company: a DM 100m five-year bullet with a final coupon of 7 per cent and a price of 993 and a DM 40m eight-year bullet issue with a final coupon of if per cent and a price of par. The same bank has completed

Luxembourg steel Arbed. The borrower is paying a coupon of 7½ per cent. The issue has been priced at 100½. The secondary market in foreign D-mark bonds remains very quiet with no real move ment in prices and little trading. The German Capital Markets Thursday to decide the calendar of new D-mark foreign bond

sues for the coming month.

In the straight dollar bond sector prices were mixed yes-terday in quiet trading. Al-though the volume of trading in the floating rate note (FRN) sector was thin, according to dealers, prices remained steady A \$100m FRN issue for the Philippines is expected this week: indicated terms will include a maturity of seven years over the six month Libor rate. The volume of Japanese convertibles in the Swiss franc sector of the market will de-cline in the next quarter if the

schedule of new issues released by the Finance Ministry in Tokyo is a reliable guide.

As Measurex enters its second decade, the faith of analysis and investors has been justified. The company capped its first 10 years with record profits. revenues, incoming orders, and backlog in the fiscal year ended last November 30. A repeat of record highs in the 1979 fiscal year see is assured. Measurex

be emerging big winners.

shuns making forecasts but finds no quarrel with Wall Street estimates of earnings this year between \$3.10 and \$3.50 a share. "We do not make projections, but if those estimates were way out of line, we would be making some noises," says Mr. Robert Dahl, senior vice president-finance. Measurex has been notably quiet.

To put the outside predictions into prespective, bear in mind that Measurex in fiscal 1978 earned \$8.8m, a 64 per cent gain over the previous year and equal to \$2.60 per share, which was a Measurex shipped more than systems and by the end of fiscal 1978 had booked orders for 989 systems. It recently reached another milestone, the order for

its 1,000th system. second ten years, the strategic and the threat of dwindling rethrust remains the same. "It is sources is forcing manufacto become the dominant com- turers to come up with ways pany in computer-based process to burn fuel more efficiently, control systems worldwide," Systems such as Measurex's says Mr. David Bossen, presisensor-based digital control dent and chief executive. "We equipment are expected to prothink in the businesses we are vide big savings of fossil fuels. in now, we are there. We believe Mr. Bossen is direct in his the business market potential is enthusiasm. He regards pros-

Planning the second decade

BY ART GARCIA IN SANTA BARBARA

address of Measurex Corpora- that will happen." Mr. Bossen sees in just that tion's headquarters near San Jose, south of San Francisco, is business the potential for 25 per

control systems has provided first the promise, then the results that have led to a large following among technology analysts on Wall Street and institutional investors. Magazina has tutional investors. Measurex has 80 per cent of revenues last year persistently ranked among the and should provide 70 to 75 per top companies picked by analysts cent of volume this year. as small concerns considered to

> Measurex's performance in its first ten years has been impressive, but a new round of enthusiasm is growing from its entry into energy

management control systems, said to be a \$1bn

Systems for the plastics, rubber,

metals, and building products industries represented the remaining 20 per cent last year. As impressive as Measurex's performance has been in its traditional pulp and paper markets, a new round of enthusiasm is growing from its entry into energy management control 58 per cent increase. Revenues into energy management control climbed 38 per cent to \$88.5m. systems, said by some to be a The backlog at the year-end potential \$15n market. The was at a new high of \$31.7m and company first entered the the level of incoming orders energy control business in 1973 topped \$74m. For the first time, and since has developed what it calls a "broad-based" product line to meet requirements of medium- to large-scale industrial steam and electrical power generating plants.

Fuel costs have more than s 1,000th system. quadrupled, making energy con-As the company enters its servation critical to industry,

IT SEEMS appropriate that the putting a timetable on when as "the most exciting new industry development in our history." Measurex began development

when Union Camp, the world's largest white paper mill, approached us for an energy control system," he recalls, Mr. Bossen claims fuel savings at an annual rate of 120,000 harrels per year are being reported in the first full year of operation for the power boiler and cogeneration systems alone at the Union Camp mill.

From that initial order from textile company, Measurex has booked orders for energy systems from a food products company, a chemical manufac-turer and a university. It has received energy system orders from Finland, Japan, the Soviet Union and the UK, as well as inside the U.S. Over the longer-term, Measurex force casts annual revenues of around \$200m by 1983, with energy control expected to contribute half the total. The company intends to reach an eventual \$1bn yearly volume level without completing any mergers or acquisitions, confident that the markets it now serves are "adequately large," as Mr.

Bossen puts it. By 1983, when Measurex expects to be ringing up volunte of \$200m a year, international sales, which in fiscal 1978 accounted for 55 per cent of total revenues of \$88.5m should represent close to 65 per cent.
"I think in the long run, if we are doing our job right, interof about two-thirds, simply because two-thirds of the world market for our equipment is outside the U.S.," says Mr.

The company maintains offices in 17 countries and has installed digital - computer-based . control systems in 25 countries around the world. The EEC, plus Finland, last year produced revenues of approximately \$32m out of the corporate total of \$88.5m. Japan and Canada are about even as the company's largest single-country foreign markets. "But the long range large enough for a Sibn compects for the company's Model market potential is much large pany," he adds, "but we're not 2001 fuel optimization system in Japan," Mr. Bossen says. market potential is much larger

FT INTERNATIONAL BOND SERVICE

The list shows the 200 latest international bond issues for which an adequate secondary market exists. For further details of these or other bonds see the complete list of Eurobond prices published on the second Monday of each mouth.

Closing prices on September 17. on the second Monday of each month.

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•		Channe an		Change on -
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1	rec: 93 98 125	1901 91 0 0 11.19	Ouebec 104 86 CS 50	941, 941, -01, -04, 11.43
· I	Conadian Pacific 94 89 50	357 564 + 04 + 04 10.39	R. Bk. Canada 10 88 CS 40	954 954 +04 ~04 10.99
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1	Finland 9% 89 100	95 964 -04 -04 10.56	Norwey 914 84 FFr 200	921, 931, -0, -0, 11,31
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1	Finance 95, 89 55	32 2 33 -02 +03 10 38	Renault 94 85 FFr 100	921, 931, 0 -0, 11.54
ı	Cremi Notors 91, 86 . 100	947 95% -01 +01 10.27	Saint-Gobain 94 86 FFr 130	90 91 -01 -01 11.85
н	Trild In Fin 95, 35, 50	964 964 - 04 + 05 10.60	Solvay et Cie 91, 87 FFr 125	89', 90', -0', -0', 11.76
1	"Inneher Fin You 63, 89 175	177½ 78 0 +0½ 10.48	Total Oil 93 87 FFr 150	873, 883, 0 -03, 11,52
,	Hudson Bay Co 10 54 60	96 987 0 0 10.50	Citicorp 10 93 £ 20	857 867 - 13 - 31 12.09
1	ITT Antillas 92 89 75	921, 931, -01, +01, 10.68	EIB 94 88 C	887 895 - 15 - 17 17.81
1	Kennecott Int. 91, 86 100		FIB 111, 91 E 25	931 937 -17 -21 12.57
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1	'1-nin-2 2 89 75	941 947 +01 +01 10.40		100-100-4 - 12 - 23 12.00
ı	Mirhelin 10 94 725	951, 954, -01, 0 10.63	Fin. for Ind. 125 89 £ 30	975 983 - 17 - 24 12,86
ı	Not. Des Telecm. 99-86 100	953, 961, -01, 0 10.33	Gen. Elec. Co. 121, 89 £ 50	577 984 -112 +24 12.79
1	New Brunswick 94 94 75	931, 931, 0 +01, 10.63	Indonesia 8½ 91 KD 7	871 973 0 0 9.08
ł	Newfoundland 10 94 50	96's 97 0 +0'- 10.43	Missubishi 7 2 84 KD 10	982, 972, 0 0 8,26
1	Norges Komm. 97, 99 100	19712 98 — — 10.40	Norges Kom. 71 ₂ 89 KD 12 1	1961, 961, +01, 0 8.04
Ţ	Norway 93, 84	987 993 +03 +03 10.25	Occidental 85, 91-KD 7	94" 95" +0" +0" 8.93
ł	Norway 91, 84 150	96's 97's +0's +0's 10.35	Euratom 8 87 LuxFr 500	964 974 +04 -04 8 57
ł	Nova Scotia Pwr. 91, 89 50	941 952 -04 +02 10.68		951 961 0 -01 8.51
١	Occidental Fin. 104 84 50	98'- 97'0'0'- 11.11		971, 984, +04 +01, 8.30
1	Orient Leasing -912 88 25 .	921, 931, -01, -01, 11.00		952 962 -04 -02 8.86
١	Pennwalt O/S F. 93, 84 25	96's 97's 0 +0's 10.60		
ł	Pensico Cen. 94 84 100	971 975 0 +01 9.98	PLOSTINO MATE	
1	Portland 10 84 50	96 96- 0 0 11.07	FLOATING RATE	
1		92 3 93 4 -04 +04 10 86		· Offer C, dte C.cpn C.ykt
ı	Ouebec Hydro 10 99 75		BNDE 6 89 04 95	54 984 21/9 114 11.51
ı	Redland Fin. XW 97-91 25	864 884 +04 -07 11.49	Sanco di Roma Int. 5 87 04 96	
ı	Seers Roebuck 9 82 150	967, 967, 0 +07, 10.60		32 984 22/9 11', 11.69
1	Szatoil 9% 89 100	95 95 ¹ 2 0 +0 ² 10.41	Banco Prov. 8A 73, 86 04. 98	985 12/6 11 11.18
ŀ	Stockholm 9½ 94 60	97 97 0 0 10.37	Banco Urquijo 6 86 04 56	
ł	Sweden 94 A9 100	96 96 0 +0 10.34	Baue, Indo Suez 54 89 84 98	
ŀ	Sweden 91- 86 200	96 97 - 01 - 01 10.42		
ł	Sweden 9½ 84 100	97% 98% 0 +0% 10.31	Banque Sudameria 6 87 0% 96	
ŀ	Unilever NV 94 87 100	95 957 +0% +0% 10,15	BNP 5-3 91 0% 98	
	Warner-Lambert 9 84 100	95 957, -0', 0 10.29	Citicorp O/S Fin. to 94 NO. 98	1001 8/9 10.89 10.67
1			Citicom O/S 83 #0 99	P ₂ 100 23/2 12.81 12.85

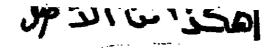
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Action of the second of the se **BANKERS ACCEPTANCE**

A new-look formula from Pemex

THE BANKERS acceptance, the British Treasury in the mida money market instrument with
1970s.

The draft is on or shortly before the on the acceptances of the whole
accepted or "endorsed" by a maturity date, out of proceeds banking syndicate.
The formula should still work
banks and becomes an irrecov- of the sale of the customer's

The formula should still work London and other financial centres, is suddenly attracting crude oil, and the import of maturity. new attention in the interpetroleum derivatives. It is
national money markets as a understood that the financing Petroleos Mexicanos-Pemex, the vehicle for financing Mexico's Mexican state oil and gas

Pemex has just completed and signed an acceptance agree being granted credit periods ment for \$2.5bn with 66 international banks. The facility was raised from an originally planned \$1.5bn, after the syndication operation headed by Bank of America in New York raised a staggering \$3.7bn of participations from the banks.

down figure, the facility ranks as one of the largest capital market transactions in recent years. It compares, for instance, with the \$3bn raised for balance-of-payments purposes by Canada last year, and the \$2.5bn Eurocurrency loan by

result of a transaction by will be, in essence, the sole oil and gas shipments.

The international oil trade is conducted extensively on credit, with oil consumers typically the oil-exporters.

The Pemex revolving line of credit uses prime U.S. bankers acceptances with maturities of up to 180 days, which will be eligible for discount at the U.S. Federal Reserve system.

While acceptances have been arousing the interests in both banks and potential borrowers to their uses, particularly for large trade-related transactions.

acceptances for short-term able obligation of the accepting product. financing for the export of its bank payable to the holder at

> When accepted by the bank, the draft may be held by the

The Mexican operation has re-aroused the interest of both banks to the use of the bankers acceptance,

particularly for large

trade-related deals

Even at this scaled-down in use for many years, the bank for its own account or sold own figure, the facility ranks Mexican operation is re- at a rediscount to other at a rediscount to other

existing for the instruments.

At maturity, the holder is paid the face amount of the A bankers acceptance essendraft by the accepting banktially is a time draft for a The bank in turn receives payspecified amount of money at a ment from its drawing customer

The traditional acceptance formula has been 'modernised" slightly for Pemex, chiefly in that it has been syndicated in order to obtain the large rates. amount needed.

In fact, participating banks are split roughly between U.S. and foreign institutions. Foreign banks with a full U.S. branch and potential borrowers are eligible to participate in the acceptance market.

The rate structure on the facility is also complex. Each participating bank has been awarded an acceptance commission of 1 per cent.

bank, a special blended formula has been used for determining the ultimate cost to Pemex. This represents the average

rate of five key reference banks in the syndication operation, plus an extra margin of 20 basis points. This technique should iron out any undue fluctuations in the varying rates of discount

out at relatively cheap financing for Mexico, in comparison with say, the U.S. banking prime rate (now 13 per cent), or London interbank Eurodollar interest

While some banks are now re-thinking the role of acceptances in big international financings, there is one factor that may tend to limit their use. The Pemex transaction alone

equals nearly 10 per cent of the total acceptance market in the U.S., which is estimated to run at a total annual volume of around \$30bn.
Some of the banks participat-

As the rate of discount on ing in this Mexican transaction acceptances varies from bank to are believed to have been forced "run off" some of their existing acceptance commit-ments, in order to make room for the new facility.

Bankers thus argue that, in

the foreseeable future, it may be difficult to accommodate many transactions in North America of the size of the Pemex

Veba backs out of U.S. auction

VEBA, the West German energy concern, did not take part in vesterday's bidding for the Belridge Oil Corporation which owns substantial oil drilling rights in the U.S., near Los

The decision was taken follow-in gobjections to the deal from a major minority shareholder in Deminex, the 54 per cent owned oil exploration minority subsidiary of Veba which was to have been the vehicle for the offer. Had Deminex been represented at the auction it would possibly have been involved in the largest ever foreign offer for a U.S. company.

The objection to the deal came from Wintershall AG, a whollyowned refining subsidiary of BASF, which owns 18.5 per cent of Deminex. The company said that it refused the planned deal (ollowing intensive studies together with the West German Economic and Finance Minis-

Wintershall said under existing distribution quotas and other U.S. regulations it would be highly unlikely to receive direct access to crude oil supplies from the Belridge oilfields.

Earlier this month Veba, which is 43.75 per cent Government-owned, said it was examining the possibility of making a bid for Belridge through its subsidiary Deminex, while the West German Economics Ministry was looking into possible financial gurantees covering the

Norsk Hydro completes CNA acquisition

By Fay Gjester in Oslo NORSK HYDRO. Norway's largest industrial concern, has completed its acquisition of a Belgian-Dutch fertiliser company—Compagnie Nederlan-daise de l'Azote (CNA)—which has an annual turnover of around \$200m.

Plans for the takeover were made public in June the deal strengthens Norsk Hydro's position as an international manufacturer of fertiliser products. For many years, Denmark and Sweden have been the main markets for these products from Hydro's Norwegian plants, the remainder being sold in overseas markets including the U.S. and the Far East. The takeover of CNA means that Hydro now becomes a major fertiliser producer on the Continent, one of the world's largest nitrogen fertiliser companies and the biggest exporter of urea.

While Norsk Hydro's main fertiliser product is complex fertiliser, CNA's production is oriented more towards pure nitrogen products. The takeover will, therefore, give Hydro a more varied product range. CNA has an annual production capacity of 700,000 tonnes of ammonia. 730,000 tonnes of urea, 685,000 tonnes of nitric acid and 800,000 tonnes of other nitrogen fertiliser products.

Italy steps up funding level

ROME - The Italian Treasury will raise L7,500bn (\$9.2bn) in the next few weeks through an issue of Treasury Bills and Certificates. The issues will, in part, serve to cover repayment of L4,000bn worth of maturing Treasury Bills and L2,000bn of maturing Treasury Certificates. Of the maturing Treasury Bills, L3,600m are held by commer-cial operators and the rest by the Bank of Italy.

later this month will consist of The Treasury Bill auction 1.2,000bn of six month Bills and 1.2,750bn of 12 month Bills, the Treasury said. The Treasury will also sell LI 250bn two-year floating rate Treasury Certifi-rates priced at par from Sep-tember 28, and LI 500bn of three-year floating rate Certifi-cates priced at 99.75 per cent from October 1.

Position.

KUALA LUMPUR NEWS

Palmco raises \$79m for expansion

BY WONG SULONG IN KUALA LUMPUR

sortium of 12 banks to finance and glycerine. the expansion of its. projects based on palm oil.

signed to allow Palmeo to make the most efficient use of them and carry various rates and terms of up to a maximum of six years' maturity.

operations in Prai, in Northern creased from 4.2m to 40m

PALMCO HOLDINGS, one of Malaysia, including further ex-Malaysia's fastest growing com-panies, has secured loans and fining and fractionating, and other financial facilities totalling downstream processing of palm 170 ringgits (\$79m) from a con- oil into industrial fatty acids

The group began refining palm oil in 1972, and has since ties, managed by UDA merchant palm oil refining groups in the bankers, consist of a wide range of financial instruments.

palm oil and related products worth 275m ringgit, compared with an export value of only 5m ringgit in 1972. Investment in fixed and current assets has Palmeo would use the funds risen from 3m to 110m ringgit, to expand and diversity its and shareholders funds have in-

ing director, said the group was expected to export worth 500m ringgit.

UNITED PLANTATIONS, the Danish-owned concern, has recorded an after-tax profit of over 10m ringgit (US\$4.6m) for the comparable previous period, when results were affected by drought. Output rose sharply and prices were good.

ringgit during that period. agreeable results" of the first Datuk Robert Chan, its manag- six months.

They based their forecast on the fact that commodity prices were "still excellent" and that forward sales had been contracted at "advantageous price

For the first-half, United Plantations recorded a turnover the first half of this year — of 39m ringgits (US\$18.1m), a nearly 140 per cent higher than 73 per cent increase over the of 39m ringgits (US\$18.1m). a previous first-half.

The volume of crop harvested during the first half gave reason to believe that output of palm The performance for the oil, palm kernal and cocoa second-half, the directors said, would be at a record this year, should be even better than "the the company said."

W. German construction machinery orders dipping

BY OUR FINANCIAL STAFF

during the final six months of the domestic market simulthis year, according to the taneously strengthened. VDMA, the Association Machinery Construction.

Production by the industry rose by a tenth in the opening six months of 1979, but is now forecast to emerge from the year as a whole with a rise of just 5 per cent. . The slowdown is atributed to adverse government investment policy and rising oil prices.

Despite the sombre forecasts, VDMA said that production was currently benefiting from the strength of the West German economy. Breaking the industry into categories of construction machines and machines for construction materials, the VDMA noted that the former category had posted record production in the first six months of 1979, up 13.6 per cent from the year the period.

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OUTPUT BY the West German construction machinery industry struction machinery fell back sharply in 1977 and 1978 while reversed, the association em-Exports to OPEC phasised. states are expected to increase in the last half of 1979. The high export levels to OPEC states posted in 1975 and 1976 will probably not be reached, however, since most of the one time needs for major plant construction have already been

 Shifts in plant holiday closings created a preliminary 21 per cent rise in order inflow to the West German textile industry for July, the Textile Industry Association (Gesamttextil) reports. Production of textiles rose 31 per cent in July against July 1978. In its monthly report on industry statistics, the association said that both order inflow and proearlier. The latter, under duction figures were exag-heavy export pressures, ex-pended only 0.8 per cent during ing in July, 1979 were shut down for holidays last year.

L'Oreal confirms offer for Helena Rubinstein

BY TERRY DODSWORTH IN PARIS

L'OREAL, THE leading French Helena Rubinstein would give cosmetics company and owner it a major presence in the U.S. of the Lancome trademark, has but the French company would confirmed that it is once again also be faced with a sizeable attempting to buy Helena task in pulling the American group back into profits. Helena

between the two companies lost about \$3m in its last finan-foundered earlier this year cial year after a lengthy period when Colgate-Palmolive, the of financial difficulties. owner of Helena Rubinstein, Apart' from its interests in entered into talks with Kao, cosmetics and perfumes, L'Oreal

to expand its overseas base, generated overseas,

group back into profits. Helena

a Japanese specialist in the has a strong position in detergents industry. Kao made the French hair lotion and a \$75m bid for the U.S. comshampoo market, and is pany, but the agreement fell reckoned to be among the through at the last moment. L'Oreal, which is loosely turnover last year amounted to linked with Nestle, the Swiss FFr 5.6bn (\$1.3bn), of which group, is known to be anxious a little more than half was

The Great Bristol Exhibition.

If you're thinking of relocating, expanding or diversifying, don't miss the Great Bristol Exhibition that's coming to London. It explains graphically and memorably the

considerable advantages of Bristol as a place to work and live - with special emphasis on the variety of sites available at extremely favourable rates. Your Company will be in good company too - Inmos, GEC-Marconi, Sperry Gyroscope and Image Data Products have all moved to Bristol recently. See us at the Institute of Directors in Pall Mall,

September 19th - 20th.

Great Bristol

Requests the pleasure of your Company.

M Wheelock Marden and Company Limited Further Growth in Recurring Profits which

* Total Distributions per Share increase by 32% Financial highlights from the accounts for the year ended 31st March, 1979.

	1979 HK\$'million	1978 HK\$'million
Consolidated Net Profit After Tax	122.33	86.19
Extraordinary Items	2.48 124.81	96.56
Total Dividends Paid and Proposed	55.90	40.53
Special Capital Bonus Proposed Payable in Cash	6.99	6.99
Consolidated Net Assets	905.53	848.35
Consolidated Net Asset Value	HK\$	HK\$
Per HK\$1.00 "A" share Per HK\$0.10 "B" share	\$3.24 \$0.32	\$3.04 \$0.30
Earnings Per Share (before Extraordinary Items)	Cents .	Cents.
Per HK\$1.00 "A" share Per HK\$0.10 "B" share	43.8 4.4	30.8 3.1

The Annual General Meeting will be held at the Mandamn Hotel, Hong Kong on 1st October, 1979. Capies of the Annual Report for the year encled 31st March, 1979 can be obtained from Miss Shella Gray, Wheelock Marden (U.K.) Limited, 16, Finsbury Circus, Landon, EC2M 7DD.

MINORCO

MINERALS AND RESOURCES CORPORATION LIMITED (Incorporated in Bermuda)

Year-end Results and Final Dividend

on the Ordinary Shares In accordance with the recommendations of the Canadian Institute of Chartered Accountants, as adopted by the Bermudian accounting profession, the corporation has introduced the equity method of accounting in respect of its major associated companies for the first time, with effect from 1st July 1978. Associated companies are those in which the corporation and/or its subsidiaries hold 20 per cent or more of the equity

the corresponding 1978 figures. The following are the unaudited consolidated results of the corporation for the year ended 30th June 1979, which should be read in conjunction with the adjoining notes. CONSOLIDATED PROFIT AND LOSS ACCOUNT

share capital and whose profits are freely remittable. No adjustments have been made to

for the year ended 30th June 1979 (expressed in United States dollars)

		٠		Year o 30th Ju	ended ne 1978
	Note	\$000's	\$000,2	\$000's	\$0 00 's
Income Dividends from investments including associates Interest and sundry income Zamic operations Profit arising from currency fluctuations	2 2 1	18,423 2,039 56		15,115 2,422 1,339 1,452	
Administration and other expenses	-	1,093 126 3,009	20,518	1,315 253 2,436	20,528
_			4,228		4,C04
Operating profit before taxation Foreign taxation	2		16,290 1,224		16,324 1.179
Operating profit after taxation			15,066 20,409		15,145
	3				
Profit before extraordinary items Extraordinary items—deficit	4		35,475 1,099		15,145 1,576
Profit after extraordinary items Dividends—Ordinary shares	5		34,376 8,829		13,569 S,829
Retained profit Transfers from (to) reserves:			25,547		4,740
Capital reserve		_=		(566) 3,210	
Unappropriated profit 30th June 1978 Adjustment thereto arising from currency		39,280	_	32,255	2, 614
fluctuations		239		(359)	
•		•	39,519		31,596
•					

The results for the current year are not comparable with those of the previous year because with effect from 1st July 1978:—
(i) the results of Zamanglo Industrial Corporation Limited (Zamic), a wholly-owned subsidiary, have not been consolidated because its profits are not currently freely remittable from Zambia, and

(ii) the equity method of accounting has been introduced for the first time.

Income includes gross dividends and interest before deduction of withholding taxes, such taxes being included in the charge for foreign taxation.

The financial year-ends of certain associates do not coincide with that of the corporation and, accordingly, the results for this year include only that portion of the earnings of each associate which fell within the corporation's financial year. In future years the corporation will account for the earnings of each associate for a full financial year.

Extraordinary items In the year to 30th June 1979 a profit was realised on the sale of investments of \$319,000 and a deficit arose in an associate on the writedown of investments of \$1,418,000, resulting in a net deficit of \$1,099,000. The total deficit for the year ended 30th June 1978 was \$1,576,000 comprising an amount of \$838,000 arising on the writedown of, and provision against, investments, a loss on realisation of investments of \$244,000 and losses arising on devaluation of

foreign currencies totalling \$494,000. Dividends \$000's Interim dividend of 4 cents a share declared 14th February 1979 Final dividend of 8 cents a share declared 17th September 1979 5,886 8,829 8,829 6. Unappropriated profit at 30th June 1979 comprises: Retentions by the corporation and its subsidiaries Retentions by associates

7. Inspiration Consolidated Copper Company (ICC)

The corporation and Hudson Bay Mining and Smelting Co. Limited (Hudbay) together equally own a company known as Plateau Holdings Inc. (Plateau). which, in turn, owned Inspiration Holdings Inc. (IH). At 31st July 1978 IH held 73.04 per cent of the outstanding common stock in ICC. During the year under review IH was merged with and into ICC and the balance of 26.96 per cent of the outstanding common stock in ICC was converted into class "A" preferred stock, which is redeemable before 31st December 1981. Consequently—through Plateau—the corporation and Hudbay now own, in equal shares, all the common stock in ICC. The preferred stock carries a cumulative preferred annual dividend of \$1.80 2 share. The preferred stock carries a cumulative preferred annual dividend of \$1.80 v share, has the same voting rights as the common stock and is redeemable, at the option of the holders, on each quarterly dividend payment date for \$33 a share. Concurrent with the redemption of each unit of ICC preferred stock, Plateau is obliged to subscribe for one common stock unit in ICC for \$33. At 30th June 1979, 713.583 units of preferred stock were in issue. .

US\$50 million multicurrency term credit facility The corporation has recently negotiated with a consortium of international banks a US\$50 million multicurrency term loan facility having a duration of ten years. The rate of interest will be based on offered rates quoted by certain defined banks in the London Interbank Eurocurrency Market.

FINAL DIVIDEND NO. 85

A final dividend of 8 cents a share (1978: 8 cents) (United States currency), for the year ended 30th June 1979, has been declared payable to members registered in the books of the corporation at the close of business on 28th September 1979 and to persons presenting coupon No. 88 detached from share warrants to bearer. A notice regarding payment of dividends on coupon No. 88 detached from share warrants to hearer will be published in the Press by the London Secretaries of the Corporation on or about 28th

This dividend, together with the interim dividend of 4 cents a share (1978: 4 cents) declared on 14th February 1979 makes a total of 12 cents a share for the year (1978:

Dividend warrants will be posted from the registered office of the corporation in Bermuda and from the Johannesburg and United Kingdom offices of the local registrars on or about 8th November 1979. Shareholders on the United Kingdom register resident outside the United Kingdom will receive their dividends in United States currency. Shareholders resident in the Scheduled Territories will receive the United Kingdom currency applied at a 20th Ostobar 1979 of the United States deline value of their currency equivalent on 30th October, 1979 of the United States dollar value of their dividends (less appropriate taxes). Such shareholders may, however, elect to be paid in United States currency provided the request is received at the company's transfer offices in the United Kingdom on or before 28th September, 1979. The dividend is payable subject to conditions which can be inspected at the registered office of the corporation and also at the Johannesburg and United Kingdom offices of the local For and on behalf of the Board

W. D. WILSON Directors H. R. FRASER

65,066

Registered Office Belvedere Building, Pitts Bay Road, Pembroke. (P.O. Box 650, Hamilton 5). Bermuda.

U.K. Registrars

Charter Consolidated Limited, P.O. Box 102. Charter House.

Park Street, Ashford, Kent TN24 8EQ.

S.A. Registrars Consolidated Share Registrars Limited. 62 Marshall Street, Johannesburg 2001 (P.O. Box 61051, Marshalltown 2107). 18th September, 1979

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Record third quarter sales for Sony

quarter results have lent a boost periods, were up 7.2 per cent, to the company's confidence in though the share of total sales its business outlook. Net income for the period, announced yes-terday, was well below the year Overseas sai ago figure, as a result of exchange losses, but a sharp cent. About 60 per cent of recovery is being forecast for the last quarter of the fiscal year and for beyond.

Sales in the quarter, to July 31, were 19 per cent up on last year's level, to a record Y161.2on (\$720m), with the best tape recorders (VTRS) and magnetic tapes. VTRs and VTR of all sales, against 21 per cent a year ago, with equipment sales up 32.2 per cent.

was down to 31.7 per cent, from

Overseas sales gained 20 per cent and domestic sales 17.6 per Sony's business is overseas. Gains were particularly good in South East Asian and the Middle East markets.

Third quarter net income fell 40.1 per cent to Y5.95m with net income for the first nine months gains coming from sales of video of the year decreasing 37.6 per cent to Y13.8bn. The company magnetic tapes. VTRs and VTR attributed the drop to foreign tapes accounted for 25 per cent exchange losses, which totalled The exchange loss, however, showed an improveales up 32.2 per cent. ment for Sony as compared cent below last year's Y25.87bn.

Television sales, which had with the second quarter, when With the problem of exchange

on this account. This time per cent was a loss on forward contracts and 20 per per cent was attributable to the translation of overseas dollar profits into yen, under U.S. accounting practice. In the second quarter, 40 per cent of the exchange loss was the result

The net profit in the last quarter is expected to show an increase of over 100 per cent in comparison with that in the fourth quarter of 1978, when the company suffered a 40 per cent

of translation losses.

Net income for thef ull year should therefore be only 10 per

SONY CORPORATION'S third proved sluggish in earlier the company had a Y10.9bn loss losses fading away, the company is predicting increases next year.

Sales for the full year are expetced to reach a record Y534.9bn last year.

Sony has made considerable savings in its operating costs over the past year, and these have contributed to a 190.5 per cent increase in operating profit the latest quarter, to Y19.37bn.

The company is stepping up spending for research and development (concentrating on audio and video products). Such spending equalled 6.6 per cent sales last quarter, up from 5.8 per cent last year.

Sony has held its own in the competition for VTRs, maintain-

ing about 40 per cent of the Japanese market on its ownwith the percentage rising when other companies using the Sony Betamax system are included The market development rate in both the U.S. and Japan is still only 3 per cent of potential. Sony feels, and believes this will rise as high as 10 per cent in coming years. The company is also preparing a range of video disc systems in preparation for future introduction commer-

Sales of a higher priced VTR model, introduced this year, have been strong, as have those of more expensive television sets with built-in stereo and multi-band receiving capabili-

Containers boosts earnings

By James Forth in Sydney

TWO OF THE leading companies in the highly competitive packaging industry, Containers and J. Gadsden Australia have reported contrasting profit re sults for 1978-79.

Earnings at Containers rose 36 per cent from A\$8.4m to A\$11.4m. (US\$12.8m) on a 13 per cent increase in sales to A\$195m, but Gadsden suffered a 6 per cent dip in earnings from A\$8.26m to A\$7.79m despite a 4 per cent gain in sales to A\$248m.

Containers has increased its dividend from 15 cents a share to 15.5 cents, an amount almost three times covered by earnings of 45 cents, which compare with the 40 cents of the previous year.

Gadsden has maintained its basic dividend at 17 cents, but has added a bonus payment of 5 cents, despite the lower profit, to celebrate the company's 100th

year of operations. The Gadsden result equalled earnings of 33 cents a share, compared with 47 cents in 1977-78. The directors of Continers said that strong demand for export packaging and good seasonal conditions for certain of the group's "open top" customers assisted in maintaining the favourable results reported in the first-half.

The elimination of losses in two-piece canmaking materially assisted the Containers result. But, Gadsden's results were adversely affected by losses from its two-piece canmaking opera-tion. Gadsden acquired a 60 per cent interest from ACI in Pacific Can during the year, and this Gadsden-Pacific Can.

Gadsden's results included a oss of A\$1m as its share of Gadsden-Pacific's losses for the seven months after acquisition. Considerable attention had been given to improving the efficiency of this operation and, while competition remained vigorous, the directors expected the current year would be satisfactory, although it was not expected to be profitable in the short term.

Kubota increase

TOKYO - Consolidated net income for Kubota, the construction and machinery group, increased to Y4.50bn for the first quarter ended July 15. Sales were ahead at Y114.19bn com-pared with Y100.77bn. Earning per American depo-sitary Y71.00.

Takeover withdrawal censured

BY PHILIP BOWRING IN HONG KONG

and Mergers has recorded its eminence of many of the mem-"strong disapproval" of the be-bers of the board of Highlands. Highlands and Lowlands Berhad, the Malaysian plantation
company. Last week Highlands
withdrew a HK\$300m (U.S. man, chairman of Pernas, the Hong Kong quoted estate com-the largest shareholder in Sime panies. Rubber Trust, Amalga-and has 10 per cent of Highland; Kelantan Estates. The Commit-tee said it regarded the reasons given by Highlands for withdrawing to be "inadequate." within the terms of the volun-plantation group, and Datuk tary rules of the takeover code. Syed Ketchik, the businessman.

The bid for the three companies was announced by Highands and Lowlands on August 7.

especially embarrassing for the had acted expressly contrary to ments."

haviour of the board of The board includes: Tun Tan \$59m) cash offer for three national corporation which is mated Rubber and Shanghai Raja Muhammad Alias, chairman of Malaysia's Federal Land Development Authority: Senator

Tan Sri Lee Loy Seng, head of

the Kuala Lumpur Kepong

The board entered into the decision to withdraw the bid before providing the takeover This is the first such censure committee with a full explanathat Hong Kong's takeover com- tion. The statement from the mittee has handed out. It is committee said that the board

THE Committee of Takeovers Malaysian group because of the the advice of its merchant bank advisers in Hong Kong, Baring Brothers Asia and Amex Bancom. The bankers had both dissociated themselves from the board's actions by resigning as financial advisers to Highlands.

In reply to the committee's request for full explanation of the withdrawal of the offer, the company had said that there had been "no satisfactory" response from the three estate

But the committee pointed out that the three had publicly stated that they had taken immediate steps to have their estates revalued so that their financial advisers could advise shareholders. The committee a specific and firm offer and the investing public "should be en titled to reply on such state. Mitsubishi Chemical up

Thomas Nationwide well ahead

SYDNEY-Thomas Nationa- A\$5.12m (A\$158,000). wide Transport, raised its Thomas Nationwide is to attributable consolidated operating profit to A\$23.36m of one new 50 cent par share 30,,_from_A\$14.22m a year Turnover was

\$463.09m, and other income A\$10.53m, against A\$11.53m. Profit is after tax of A\$14.11m, compared with A\$11.98m, depreciation of A\$18.70m (A\$12.26m) interest of A\$15.16m (A\$9.29m), and minorities of A\$4.73m (A\$3.05m), but before attribut-

(U.S.\$26.2m) in the year to June for every 30 notes at 50 cents per share to holders of 1980 and 1983 unsecured convertible A\$610.71m (U.S.\$686m), against notes registred on November 23.

The company noted that under the terms of its 1985 unsecured convertible notes. noteholders' entitlements to the bonus issue would accrue to such notes and be allotted on con-

able net extra-ordinary profit of CONCRETE INDUSTRIES Reuter

holding in Nippon Monier KK to 80 per cent from the present Reuter. 33.33 per cent.

It will do so by purchasing the shares held by Eidai Company, while the remaining 20 per cent will continue to be held by Nissho-Iwai Company.

Concrete Industries added that it will build a new concrete tile plant at Dyama, Kanto, at a cost of \$3.68m, to be financed partly by a Nippon Monier share issue.

BMI to make rights issue after advance

BY OUR SYDNEY CORRESPONDENT

BMI, the major quarrying, building materials and engineering group, is to raise A\$11m through a rights issue to shareholders, after a solid gain in profits for the year to June 30. The group's earnings rose 30 per cent from A\$9.6m to A\$12.6m (\$US\$14.2m), continuing the upward trend of the past five years.

The dividend is raised from 7.5 cents a share to 8 cents, lifting earnings per share from 14.9 cents to 17.3 cents.

The rights issue will be offered on a one-for-four basis, at an issue price of 50 cents. BMI shares closed at A\$1.19 on the market yesterday, giving the rights a theoretical value of The new shares will rank for dividend after January 1, 1980, and the directors expect maintained on the expanded

Looking ahead, the directors plan to seek shareholders' approval to double the authorised capital to A\$100m to provide scope for further issues which may be necessary in connection with BMI's positive programme of expansion."

The directors said that contributions from the group's direct domestic operation rose by 29 per cent, but that the growth from local operations was not mirrored in the group's overseas operations, which all suffered from reduced demand in their areas. The higher result was achieved on a 19 per cent increase in turnover from A\$174m to A\$208m.

The board said the rise in the higher dividend rate to be tin prices was responsible for

quarrying did not fare as well, because of lower demand and intense price competition.

The performance of the overseas division dipped through a mixture of bad weather and exchange losses. A general transport strike and harsh winter in the UK halted the harsh growth in January and February of Pozzolanic Ltd. the UK fly ash distributor, resulting in further

In Indonesia, devaluation as well as causing direct losses in unrealised currency fluctuation losses deterred investors and reduced Javanese construction market.

Issued, to be issued and reserved for issue

at 23rd August, 1979*

25,917,010

Itoh passes its halfyear dividend

TOKYO - C. Itoh and Co. the Japanese trading house, is to pass its mid-year dividend payment for the first time in 27 years.

The company has decided not to pay a dividend for the Sep-tember 30 half-year because it expects to face heavy losses by the end of the current fiscal year next March 31. It is to shoulder most of a Y51.4br (\$230.28m) deficit suffered by the Toa Oil group, of which it is the major stockholder.

C. Itoh has already agreed to sell part of the group to Nippon Mining Company, the Japanese mining and smelting concern.
The company is planning to pay a year-end dividend.

TOKYO - Mitsubishi Chemical Industries Ltd made an after-tax profit of Y2.85bn (\$12.76m) in the half year ended July 31, against Y1.37bn in the same period last year. Sales totalled Y295.93hm its (Y255.83bn). The interim dividend was nil.

Kirin Brewery

TOKYO - Kirin Brewery has reported after-tax profit of Y9.23bn (841.35m) in the half year ended July 31 compared with Y9.49bn in the same period last year. Sales were Y447.67bn compared with Y428.61bn. Interim dividend is Y3.75, the same as last year.

Increase in suspensions

TOKYO - The number of Japanese companies suspended investment income rising by August totalled 1,426, up 11.1 13.6 per cent to A\$1.75m per cent from the 1,283 in July. through the group's stake in but down 0.9 per cent from 1.438
Kajuara Mining Corporation, in the like year-earlier month,
Investments in concrete and the Federation of Bankers' the Federation of Bankers

Association said. Liabilities left totalled about Y43.63bn (\$200m), up 11.8 per cent from the Y39.01bn in the previous month, and 124.6 per cent from the Y19.27bn a year earlier. AP-DJ

Higher result from Edward L. Bateman

By Jim Jones in Johannesburg EDWARD L. BATEMAN, the mechanical and electrical engineering group, has again reported record results, but the management is characteristically cautious on near-term

In the year to June 30, the pre-tax operating profit ad-vanced 24.3 per cent to R6.65m (SSm) (1978: R5.35m) helped by uranium and diamond mine plant construction projects taken to account during the year. Although at this time last year the board was happy with the company's order book, the latest preliminary results an nouncement gives a warning that the work load is still below plant capacity.

However, earnings for the current year are expected to be about the same as those for the latest trading period. Bateman is traditionally a conservatively run company, with little debt carried in its balance sheet. Although earnings per share advanced to 170 cents (1978: 139 cents), the total dividend pay-out has been limited to 30 cents - (1978: 26 cents).

George Kent profits ahead

By Wong Sulong in Kuala Lumpur PRETAX PROFITS of George Kent Berhad, the 60 per cent owned Malaysian subsidairy of George Kent, for the first six months increased by 16 per cent to 1.69m ringgit (U.S.\$782,000) on an 18 per cent rise in turnover to 16.3m

The company said profit margins from its Singapore operations were lower due partly to the execution of some large contracts at low margins and also higher cost of operation. The company is optimistic that results for the full year would be better than last year's, and that orders had expected an-

An interim dividend of 8 per cent is declared.



WARTA AG develops, produces, sells and maintains through its subsidiary Varta Batterie AG a comprehensive programme of all types of batteries: industrial batteries, starter batteries and consumer batteries for a wide range of purposes and applications. Its subsidiary Varta Plastic is active in the processing of thermoplastics for manufacturers e.g. of long life electrotechnical consumer goods, cars and office furniture.

Varta Report 1978

Varta's world-wide sales in 1978 totalled DM 1,208 million (at current rates about £302 million). Consolidated German domestic sales and exports amounted to

DM 777 million (about £194 million). Exports grew by 7 per cent, thus bringing their share of total turnover to 29 per cent.

The international business (turnover of foreign subsidiaries plus exports from Germany) increased to 54 per cent of world-wide sales.

The group's profit on consolidated domestic sales was DM 22 million (about £5.5 million).

Dividend

A dividend of DM 6 on each DM 50 share was voted by the general meeting, increasing the total amount distributed by one million DM to 11.9 million (about £3 million).

The group employs world-wide 13,000 personnel of whom about one-third work outside Germany.

For a copy of the English version of the annual report, please write to Frank Law, Chairman, UK Group, Varta House, Hanger Lane,

BAD HOMBURG v.d.H., FEDERAL REPUBLIC OF GERMANY.

This announcement appears as a matter of record only.



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Hambros Bank Limited Mitsui Finance Asia Limited Société Générale The Taiyo Kobe Bank, Ltd.

Agent Bank **Hambros Bank Limited**

September, 1979

Airfix Industries

Results for the year ended March 31st, 1979.

Turnover_ £43million Profit before tax £15 million

"We expect our turnover to increase again in 1979/80 and hope to improve our margins on these sales."

> Ralph Ehrmann, Chairman and Chief Executive

For copies of the 1978B Report and Accounts please write to The Company Secretary, Airlix Industries Limited, 17 Old Court Place, London, W.S.

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Petrolane Incorporated

(Incorporated with limited liability under the laws of the State of California, United States of America)

Authorised 48,000,000

Shares of Common Stock of no par value

including 12,473,464 shares to be issued and 970,082 shares reserved for issue The Council of The Stock Exchange has admitted to the Official List 12,473,464 issued shares together with,

and 970,082 reserved shares arising from the stock option plan for Key Employees of Common Stock Particulars relating to Petrolane Incorporated are available in the Extel Statistical Service and copies of such particulars may be obtained during usual business hours on any weekday (Saturdays excepted) up to and including 2nd October, 1979 from:

subject to allotment, 12,473,464 shares to be issued under the terms of the recently announced 2 for 1 stock split

S. G. Warburg & Co. Ltd., 30 Gresham Street London EC2P 2EB

Cazenove & Co., 12 Tokenhouse Yard London EC2R 7AN

Rowe & Pitman. City Gate House, 39-45 Finsbury Square, London EC2A ÎJA

18th September, 1979.

VALUE OF

25

CURRENCIES, MONEY and GOLD

Sterling weak

Sterling fell sharply in currency markets yesterday, but finished well above its lowest which really started last Friday, soon re-asserted itself as large and consistent selling orders, particularly out of West Germany saw the pound fall



\$2.1260 at around 11 am. The Bank of England intervened from time to time at these lower levels but the scale of help barely reached modest proportions. During the afternoon the pound looked somewhat oversold and renewed interest pushed up the rate at the close to \$2.1510-2.1520, a fall of 1.75 from Friday.

a fall of 1.7c from Friday.
While the possibility of an imminent revaluation of the D-mark receded, the market was still unhappy over the current industrial unrest in the UK and continued high level of

against the D-mark and FFr 9.1025 from FFr 9.1750 in finished well above its lowest terms of the French frame. Using levels. Pressure on sterling. Bank of England figures, its which really started last Friday, trade weighted index fell to 68.4 from 69.3, although this was a considerable improvement over

the noon calculation of 67.8. The dollar showed a mixed over 3 cents against the U.S. dollar at one time. After opening at \$2.1575, it rose briefly to \$2.1600 before plunging to \$2.1600 before plunging to \$1.000 before plunging to \$2.1600 Bank of England figures, its trade weighted index was unchanged at 85.0. FRANKFURT — There was no

intervention at yesterday's fixing by the Bundesbank when the dollar was fixed at DM 1.8101, down from Friday's level of DM 1.8137. The U.S. unit tended to trade rather quietly as attention centred on sterling. The pound was fixed at DM 3.8680 compared with DM 3.9470 late on Friday. Sterling's decline may have been further exacerbated by investors switching into gold.
Within the EMS the Danish krone was fixed at DM 34.69 per DKr 100, well above its floor level within the system. On an ECU basis the Belgian franc weakened as pressure switched from the base of the transfer. from the krone, after the recent rise in Denmark's bank rate, to the Belgian currency.

MILAN - Sterling fell sharply at the fixing on heavy selling to L1.737.30 from L1.775.30, while the dollar also weakened to L814.30 from L815.45. This came despite assistance from the Bank

of Italy.

TOKYO — The dollar eased slightly against the yen yesterday to close at Y223.725, down from Friday's level of Y223.975. The U.S. unit reached a high of Y224.05 before profit taking became more widespread. Trad-Sterling was also weak against ing was generally quiet with the other European currencies and fell to DM 3.90 from DM 3.93 undertone.

EMS	EUROPEAN	CURRENCY	UNIT	RATES

	ECU central rates	amounts against ECU September 17	cantral rate	% change of divergence	Divergence limit %
Belgran Franc	39,4582	40.2043	+1.89	+1.49	±1.53
Danish Krone	7.08592	7.22045	+1.90	+1.49	±1.635
German D-Merk	2.61064	2.50481	-0.23	-0.64	±1.1325
French Franc	5.79831	5.85356	+0.95	+0.55	<u>∓</u> 1.35
Dutch Guilder	2.72077	2.75246	+1.16	+0.76	±1.5075
Irish Punt	0.662638	0.868423	+0.67	+0.17	_ ₹1,665
Italian Lira	1148.15	1126.51	-1.88	-1.88	+4.0725
Obs		CII ab/			

Changes are for ECU, therefore positive change denotes a weak currency. Adjustment calculated by Financial Times

THE POUND SPOT AND FORWARD

	Sept. 17	spread	Clása	One month	p.a.	nonths	p.a.
	U.S.	2.1260-2.1600	2.7510-2.7520	0.35-0.25c pm	1.67	7.08-0.58 pm	1.91
	Canada	2.4730-2.5110	2.5015-2.5025	0.70-0.60c pm	3,12	1.75-1.65 pm	2.72
	Nethind,	4.23-4.31 -	4.281-4.291	21 ₃ -12 ₅ c pm	4.55	pm با4بري	4,66
1	Betglum	61.70-62.95	62.50-62.60	12-2c pm	1.34	37-27 pm	2,05
;	Denmark	11.11-11.31	11.191-11.2012	14-17 ore dis	-16.61	24-27 dis	-9.10
٠	Ireland	1.0250-1.0430	1.0362-1.0372	20-30p dis		72-82 dis	-2,97
i	W. Ger.	3.85-3.93	3.89 ¹ ~3.90 ¹ 2	21 ₅ -1 ₅ pf pm	7.31	7%-6% pm	7.31
	Portugal	105.40-107.00	106.50-106.80	30-80c dis	-6,19	130-230 dis	-6.75
,	Spain	140.50-142.70	142.00-142.10	170-160c dis	-11.40	340-440dls -	-10.98
	Italy	1,732-1,762	1,751-1,752	ee pm متأوا 1 ح 2 1		The pro-to dis	0.11
-	Norway	10.65-10.83	10.76 - 10.772	Z4-3ore pm	1.54	6-4 pm	186
	France	9.00-9.15	9.05%-9.10%	214-114c pm	2.31	41-31, pm	1.76
1	Sweden	8.97-9,13	9.07->-9.08->	3-1ore pm	2,84	5 ² -3 ⁵ pm	7.98
:	Japan	475-488	48012-48117	3,25-3.00y pm	7.80	9,00-8.65 gm	7.34
	Austria	27.75-28.25	28.05-28.10	20-10gro pm	6.41	50-40 pm	6.41
)	Switz.	3.46-3.54	3.504-3.514	4-3c pm	11.96	11%-10% pm	12,24

THE DOLLAR SPOT AND FORWARD

Sept. 17	sbteaq pay,¢	Close	One month	% p.a.	Three months	p.a.
UK†	2.1260-2.1600	2.1510-2.1520	0.35-0.25c pm		1.08-0.98 pm	1.91
ireland† Caneda	2.0740-2.0770 1.1624-1.1636	2.0740-2.0770	0.90-0.70c pm		2.40-2.00 pm	4.24
Nethind.	1.9883-2.0015	1.1626-1,1629 1.9995-2.0015	0.08-0.05c pm 0.57-0.47c pm		0.28-0.22 pm 1.52-1.42 pm	0.83 2.94
Belgrum	29.04-29,157	29.071-29.09	Te pm-1e dis	_	2 pm-par `	0.14
Danmark W. Ger.	5.2015-5,2230 1.8104-1,8117	5.2015-5.2030 1.8107-1.8117	7.75-8.25ore dis 0.91-0.81pf pm		14.5-15.0dis	
Portugal	49,55-49,80	49.57-49.57	20-30c dis		2.47-2.37 pm 65-105 dls	5.34 -6.85
Spain	66.03-66,08	66.03-66.07	60-80c dis.	-12.72	185-205dis -	-11,81
italy Norway	814.00-814.50 5.0040-5.0090	814.20-814.40 6.0080-5,0090	0,10-0.50tire dis 0,35-0.15ore pm	-0,44 0 80	3,40-3,90dia 0,25pm-0,25d	
France	4.2295-4.2325	4.2295-4.2310	0.13-0.05c pm		0.33-0.43dia	
Sweden Japan	4.2168-4.2205	4.2190-4.2200	0.75-0.55ore pm	1.85	0.50-0.30 pm	0.38
Austra	223.10-223,50 13.039-12.049	223.30-223.50 13.042-13.047	1.15-1.00y pm 5.80-5.30gro pm	5.77 5.11	3.10-2.95 pm 14.50-13.00pm	
Switz.	1.6305-1.6315	1.6305-1.6315	1.49-1.44c pm	10.78	4.28-4.23 pm	

CURI	REN	CY RA	TES .	CURRENCY MOVEMENTS		
Sept. 14	Bank rate	Special Drawing Rights	European Currency Unit	Sept. 17	England	Morgan Guaranty changes %
sterling	1214 534 9 11 5 8 91 ₂ 101 ₂ 51 ₄	D.596801 1.29834 1.69584 16.9524 37.7882 6.79876 2.35480 2.58564 5.50496 1296.698 6.50458 6.50458 6.50458	0.636150 1.88554 1.60909 18.0951 40.5329 7.25189 2.51295 2.75971 5.87329 1129.90 310.318 6.94569 91.5493	Sterling U.S. dollar Canadian dollar Austrian schilling Belgian franc Danish kroner Deutsche mark Swiss franc Guilder French franc Lira Yen Based on trade we Washington agreen	81.2 152.1 114.5 115.7 153.3 200.6 124.3 99.5 55.6 127.8	
wiss Fr	í	2.12084	2.26189	(Rank of England)		

OTHER	MARKETS

Sept. 17				Note Rates
Argentina Peso	3080-3100	1430-1440	Austria	2712-281 ₂
	1.9115-1,9215	0.8895-0.8920	Belgium	6412-6515
Brazil Cruzelro	62.12-52.32	28.85-28.95	Denmark	11.10-11.20
Finland Markka	8.27-8.29	3.8570-3.8590	France	9,00-9,10
Greek Drachma	79.560-81.472	37.10-37.40	Germany	3.85-3.95
	10.8270-10.8400	5.0695-5.0715	Italy	1,770-1,820
Iran Rial	150.34-157.85	70-7312	Japan	477-487
Kuwaii Dinar (KD)	0.589-0.599	0.8772-0.2775	Netherlands	4.20-4.30
Luxembourg Frc.	63.05-63.15	29.07-29.09	Norway	10.70-10 85
Malaysia Dollar	4.6190-4.6300	2.1630-2,1660	Portugal	104-111
			Spain	14019-14312
Saudi Arab. Riyal.	7.15-7.25	3,3585-3,3615	Switzerland	3.45-3.55
Singapore Pollar.	4.6100-4.6215	2.1580-2.161D	United States	2.1412-2.16
Sth. African Rand	1,77-1,78	0.8315-0.8325	Yugosiavia	4412.4614

EXCHANGE CROSS RATES

Sept. 17	PoundSterling	U.S. Dollar	Deutschem*k	Japan'se Yen	FrenchFranc	Swiss Franc	Dutch Gulid'r	Italian Lire	Canada Dollar	Belgian Franc
Pound Sterling	1.	2.152	3.900	481.0	9,103	3,513	4,288	1752.	2.502	62.55
U.S. Dollar	0.465	1.	1.813	223.6	4,231	1,833	1,993	814.1	1.163	29.07
Deutschemark	0.256	0,552	1.	123.3	2,534	0,901	1,099	449.1	0.642	16.04
Japanese Yen 1,000	2.079	4,473	8.108	1000.	18,92	7,302	8,914	3641.	5.202	130.0
French Franc 10	1,099	", 2,564 :"	4,285	528.4 ·	10,	5,859	4.710	1924.	2.749	68,72
Swiss Franc	0,285	0,613	1,110	136.9	2,591	1.	1,221	498.5	0.712	17,81
Dutch Guilder	0,253	0.502	0.910	112.3	2.123	0,819	1.	408,5	0.584	14.59
Italian Ura 1,000	0,571	1,228	2.227	274.6	5,197	2,005	2.448	1000.	1.428	85.71
Canadian Dollar	0.400	0.850	1.559	192.2	3,638	1,404	1,714	700.0	1.	25.00
Belgian Franc 100	1,599	6.440	6.235	769.0	14.55	5,616	6.856	2800.	4.000	100.

EURO-CURRENCY INTEREST RATES

The following nominal rates were quoted for London dollar certificates of deposit: one month 12.20-12.30 per cent; three months 12.55-12.65 per cent; su months 12.55-12.75 per cent; one year 11.85-12.05 per cent.

Sept. 17	Sterling	U.S. Dollar	Canadian Dollar	Dutch Guilder		West German Mark	French Franc	Italian Lira	Aslan S	japanese Yen
7Short term	133g-1334 1414-1459 1434-161g 1433-151g 145g-15 145g-1434	1112 1134 1139 1178 1239 1318 1276 1242 1276 1277 1276 1277	101g-111g 101g-111g 1114-115g 1114-121g 1111-121k 1111-121k	94g-95g 94g-9-9 9-7-9-6 9-7-9-7- 9-7-9-7- 9-7-9-7-	1g-1 1-114 1;:-1;: 2;:-2;: 2;:2;: 27g-3	618-7 7.718 718-714 718-714 728-715 728-716	1112-1154 1112-1154 112-1154 1214-1212 15-1514 1536-1356 1536-1356	10-12 11 12-12 12 13-14 14-15 14 1 ₂ -15 1 ₂ 15-16	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5-8 / 6 / 7 / 8 / 7 / 7 / 7 / 7 / 7 / 7 / 7 / 7

Long term Eurodollar: two years 11%-11% per cent; three years 11%-11% per cent; four years 11-11% per cent: five years 10%-11 per cent; nominal closing rates. Short-term rates are call for sterling, U.S. dollars and Canadian dollars; two-day cell for guilders and Swiss francs. Asian rates are closing rates if Singapore.

INTERNATIONAL MONEY MARKET

Italian bill issue

The Italian Treasury will increase its outstanding debt by its prime rate by i per cent to L1.5 trillion at the next Treasury bill auction which closes on September 24. The increase in the first of the big four to raise L1.5 trillion at the next Treasury bill auction which closes on September 24. The increase in the amount of debt will help to drain liquidity, but yields are not expected to change significantly. Despite the upward trend in interest rates elsewhere in Europe the Italian Treasury has not yet taken steps to push up domestic rates while the liraremains relatively strong within the European Monetary System.

The Treasury is to raise

Si per cent. Last week Development and Bank of Singapore became the first of the big four to raise its prime rate to Si per cent. Several other banks also increased their rates to between Siper cent and 9½ per cent.

Several other banks also increased their rates to between Capacity of the big four to raise its prime rate to Si per cent. Several other banks also increased their rates to between Capacity of the big four to raise its prime rate to Si per cent. Several other banks also increased their rates to between Capacity of the big four to raise its prime rate to Si per cent. Several other banks also increased their rates to between Capacity of the big four to raise its prime rate to Si per cent. Several other banks also increased their rates to between Capacity of the big four to raise its prime rate to Si per cent. Several other banks also increased their rates to between Capacity of the big four to raise its prime rate to Si per cent. Several other banks also increased their rates to between Capacity of the big four to raise its prime rate to Si per cent. Several other banks also increased their rates to between Capacity of the big four to raise its prime rate to Si per cent. Several other banks also increased their rates to between Capacity of the big four to raise its prime rate to Si per cent. Several other banks also increased their rates to between Capacity of the big four to raise its prime rate to Si per cent. Several other banks also increased their rates to between Capacity of the big four to raise its prime rate to Si per cent. Several other banks also increased their r

The Treasury is to raise L7.5 trillion through the issue of Treasury bills and certificates. partly to cover the maturity of L4 trillion worth of Treasury bills and L2 trillion of certifi-cates; L3.5 trillion of the bills are held commercially, with the balance in the hands of the authorities.

The bills will be sold by auction and will consist of L2 trillion of six-month bills and L2.75 trillion of 2-month bills; L2.75 trillion of 2-month bills;
L1.25 trillion of two-year floating
rate Treasury cortificates will
also be sold, priced at par from
September 28, and L1.5 trillion
of three-year floating rate certificates
reflect at 99.75 per cent
from October 1. The certificates
will pay interest on a six-month
basis. reflecting the average
yields on Treasury bills, with
the coupon for the first six the coupon for the first six months guaranteed at a minimum of 6.15 per cent.

SINGAPORE — United Over-seas Bank, one of the big four

MONEY RATES

NEW YORK

GERMANY

FRANCE.

GOLD

Record

level

Gold continued to rise in the London bullion market yesterday, and reached an all time closing high of \$353\cdot -354, a rise of \$8\cdot an ounce from Friday The metal opened at \$350\cdot -351\cdot -

and touched \$3511 during the morning before falling back on some profit taking to \$349}. However renewed demand soon saw the rate climb to an all time high during the afternoon at \$353}-

\$354}. In Paris the 12½-kilo bar was fixed at FFr 49,700 per kilo (\$365.40 per ounce) compared with FFr 49,500 (\$364.08) is the morning and FFr 48,790 (\$357.91) in the morning.

In Frankfurt the 121-kilo bar was fixed at DM 20,390 per kilo (\$350.14 per ounce) against DM 20,165 (\$345.90) previously.

	Sept	ember 17	Septemi	per 14							
	Gold Buillion (fine ounce)										
Opening Morning fixing Afternoon fixing	\$3503 ₄ -3511 ₉ \$350.75	(£164,2-164,5) (£162,6-163,0) (£163,749) (£164,408)	\$84414-34514 \$845-31534 \$345.75 \$345,80	(£158.4-158.7) (£165.4-155.7) (£158.637) (£158.333)							
Krugerrand	\$5791; -3841; \$903; -904; \$1083; -1104; \$118-118 FFr415-425 \$436-437 \$345-346 \$480-484 \$286-291	Gold Coins (£1683,-1693,) (£421,-431,4) (£501,-5112) (£54-55) (\$7160-165)	\$356-358 \$57019-37519 \$8819-9010 \$10809-11019 \$1159-11719 FFF414-424 \$489-480 \$337-358 \$480-485 \$286-291 \$241-245	(£1533, 16434) (£403, 4134) (£50.51) (£53.54) (\$Fr160.164)							

help

Bank of England Minimum Lending Rate 14 per cent (since June 12, 1979) Longer term fixed period interest rates were firmer in the London money market yesterday, reflecting the weakness of ster-ling and the steady erosion of Rate of 14 per cent.

on the per cent from 11 per cent. One-month increased to 11i-11i per cent, and three-month to 11i-12 per cent from 11i-11i per cent. Six-month and 12-month funds were unchanged at 11i-12 per cent.

FRANKFURT - Call money rose to 7-7.10 per cent from 6.80-7.00 per cent, but fixed period were unchanged.

UK MONEY

MARKET

the differential between interest run-down balances, there was rates in the UK and the U.S. and small excess of revenue pay Europe. small excess of revenue pay ments to the Exchequer over Day-to-day credit was in short Government disbursements, and supply and the authorities gave the market was also faced with a small amount of assistance by the resale by the Bank of Eng. buying a small number of Trealand of a small amount of sury bills from the discount eligible bank bills. On the other houses, and by lending a small hand there was a small decrease buying a small number of Trea-sury bills from the discount houses, and by lending a small amount to one or two houses, in the note circulation and the houses were also helped by the redemption of 3 per cent Treaovernight at Minimum Lending Banks brought forward small sury stock 1979.

LONDON MONEY RATES

Sept. 17 1979	Sterling Cortificate of deposit	Interbank	Local Authority deposits	Local Authoristics bonds	Finance House Deposits	Company Deposits	Discount market deposits	Treasury	Eligible Bank Silis 4	Fine Trade Bilis 4
Overnight	14½-15½ 14½-14½ 14½-14½ 13½-13½ 13½-13½ 13½-16½	13-1512 1312-14 1572-14-15 14-14-15 14-14-14-15 15-15-15-15-15 15-15-15-14	1418-1414 1418-1414 1418-1414 1318-1414 1318-14 13-1314 13-1318	15-1434 147g-145g 1414-1379 1334-153g 1334-1339 135g-131g	140e-141e 143e 143e 143e 141e 141e 141e 141e	155 ₄ 14 145 ₉ 146 ₈	134-14 	· 13Ū ∴	14 & 14 % 14 4-14 & 14 6-14 & 13 14	145g 1412 143g 137g

bills 14½ per cent.

Approximate selling rate for one-month Tressury hills 13 15-54ths per cent; two-month 13 19-54ths-13½ per cent; Approximate rates for one-month bank bills 14½ per cent; two-month 14½-14½ per cent; three-month 14½-per cent; one-month trade bills 14½ per cent; two-month 14½-per cent; sed three-month 14½-per cent; one-month trade bills 14½ per cent; two-month 14½-per cent; sed three-month 14½-per cent.

Finance Houses Base Recost (published by the Finance Houses Association) 14½-per cent.

Cleating Bank Deposit Fattes for small sums at seven days' notice 11½-12 per cent.

Cleating Bank Rates for lending 14 per cent.

Tressury Bills: Average tender rates of discount 13.4027 per cent.

WORLD VALUE OF

VALUE OF

totherwise. In some cases market rates have been celculated from those of foreign currencies to which they are tied.

Exchange in the UK and most of the countries listed is officially controlled and the rates shown should not be tother they are tother they are countries listed is officially controlled and the rates shown should not be tother they are tother then tother tother to any perfect to The table below gives the latest available rates of exchange for the have been calculated from those of pound against various currencies on foreign currencies to which they are are nominal. Market rates are the average of buying and selling rates except where they are shown to be

ł	PLACE AND LOCAL UNIT	£ STERLING	PLACE AND LOCAL UNIT	E STERLING	PLACE AND LOCAL UNIT	£ STERLING
ĺ	Afghanistan Afghani	95.00	Greenland Danish Kroner	11.20	Peoples D. Repub.	
ı	Albania Lok	9.7910	Grenada (S) E. Caribbean \$	5.81	of Yemen (5)., S. Yemen Dinar	A (D.7547
i	Albania Lok Algeria	8.2585	Guadaloupe Local Franc	9.1025	Peru Sol Philippines Philippine Peso	excA1504.03
ł	Andorra Spanish Peseta	9.1025 142.05	Guam U.S. \$	2.1515	Philippines Philippine Peso	15.81
1	Spanish Peseta	67.763	Guatemaia Quetzai	2.1515 40.74	Pitcairn Islands (S) E Sterling New Zealand 5	2,1615
ı	Angola: Kwanza		Guinea Republic Sily	58.144	1	(Cm169,10
ı	Antigua (6) E. Caribbean \$	5.81 3,090	Guinea Bissau Guyanese \$	5.486	Poland Zioty	(T)69.10
1	Argentina	1.9165	Guyana (S) Guyanese \$	0.465	Portugal Portugu'se Escudo	106.65
ı	Allatralia (S)mm Australian 9	28.075	Haiti, Gourd	10.7575	Dest Timor Timor Regula	106.65
1	Austria Schilling Azores Portug. Escudo	106.65	Honduras Repub Lampira	4.29	i Petrologistanda — Portuguise Ferndo	106.65
ĺ		,	Hong Kong (\$) H.K. \$	10.835	Port Timor Timor Escudo Principe Islands Portugu'se Escudo Puerto Rico U.S. \$	2,1515
1	Sahamas (S) Ba. Dollar	2.1615	Harris English	i (com: 77.80	1	8.02
ı	Bahrain (\$) Dinar	0,815	Hungary Forint	((T)(no) 44.17	Qatar (S) Qatar Ryal	
ı	Balance Islas 302. Pasatz	142.05	iceland (\$) 1- Krona	811.5	Reunion lie de la French Franc	9,1025
1	Bangladeshi 5) Taka Barbados (S) Babados \$††	34.52 (sg)	India (S) Ind. Rupes	17.64(sg)	Rhodesia Rhodesian S	1.492
1	Barbados (S) Babados \$11	4.303	Indonesia Rupiah	1,344.7	Romania Leu	(Cm)9.97
١	Belgium B. Franc	(fn) 65.225	lzan Rial	153.75	l	.≀c.c.T26.77 208.73
ı	D	4.303	Iraq.,, Iraq Dinar	0.64245	Rwanda Franc	
ı	Belize 8 5	45518	irish Republic (K) Irish 🗜	1.0867	St. Christopher (8) E. Caribbean 8	5,81 1,0
1	Benin	2.1515	Israel Israel £	60.40	St. Helena St. Helena £	5.81
ı	Bhutan Indian Rupee	17.64 (sg)	Italy Lira Ivory Coast G.F.A. Franc	1751.5	St. Lucia E. Caribbean \$	
1	Pallula: Rollylan Data	43.03	Ivory Coast C.F.A. Franc	∤ 455≀ ₈	St. Pierre C.F.A Franc St. Vincent IS) E. Caribbean \$	45518 5.81
1	Bolivia Bolivian Peso Botswana (S) Pula	1.7818		(5.8372	Salvador El Colon	5,33
Į	2 a c c c c c c c c c c c c c c c c c c	62.22	Jamaica (S) Jamaica Dollar Japan	481.0	Samos American U.S. S	2 1515
ı	Brit, Virgin Islas(\$) U.S. \$	2.1515	Jordan (S) Jordan Dinar	0.541	San Marino Italian Lire	1751.5
1	Brunei (5) Brunel 5	4.61575	Variables Blel	2581.8	Sao Tome Dobra	N A
J	Bulostia Lev	1.9160	Kampuches Riel Kanya (\$: Kanya Shilling Korea (Nth) Won	. 2391.9	Sao Tome Dobra Saudi Arabia Ryal	7.20
ı	Burma Kyat Burundi Burundi Franc	14.478	Koren (Mth) Won	15.776 1.9645(j)	Senegal C.F.A. Franc Seyonelles S. Rupee	455 lg
ı	Burundi Burundi Franc	201.84	Korea (Sth) Won	1047.62	Seychelles S. Rupee	13.33
ì	Cameroon Repub'c C.F.A. Franc	4551,	Korea (Sth)	0.594	Sierra Leone(S) Leone	2.3505 4.61575
1	Canadian C	2.5020	1	•	Singapore (5: Singapore 5 Solomon Islands:S: Solomon Is. 5	1.9074
ı	Canada Islande Spanish Pecata	142.05	Laos Kip Pot Po	860.6	Somali Republic Somali Shilling	(A)12,961
Į	Cana Varde isle Cage V. Escudo	78.55	Lebanon Lebanese £	7.0192	South Africa ISI, Rand	1,775
ł	Cayman Islands (S) Cay. Is. S	1.7929	Liberia S. African Rand	1.775	South West African	
I	Canary Islands Spanish Peseta Cape Verde Isle Cape V. Escudo Cayman Islands (S) Cay. Is. S Cent. Af. Empire C.F.A. Franc	4551	Liberia Liberian 5	2.1515 0.6369	Territories (S) S. A. Rand	1.775
1	Chad C.F.A. Franc	4551g (Bk) 83,26	Libyan Dinar Lieghtenstein Swiss Franc	3.5125	Spain Peseta	142,05
ı	Chad	(Bk) 83,26	Luxembourg Lux Franc	62.55	Spanish ports in	
ı		3,3325	· -	-	North Africa Peseta	142.05
ł	Colombia C. Paso	(F) 91.54 4551 ₈	Macao Pataca	11.425	Sri Lanka (\$) S. L. Rupes	35,15
Į	Cornero Islands C.F.A. Franc Congo (Braz'aville) C.F.A. Franc	4551g	Madeira Portug'se Escudo	106.65	Sri Lanka (S) S. L. Rupes Sudan Republic Sudan L. 4	n.a.
i	Costs Rics Colon	18.503	I Malagasy Redublic MG Franc	4551a	Surinam	5,8511
Į	Cuba Cuban Peso	1,6296	Malawi (8) Kwacha	1.75 4.6245	Swaziland (S) Lijangeni	1.775
1	Cuba Cuban Peso Cyprus (S) Cyprus £	0.7520	Malaysia (S)	8.455	Sweden	9.08
1	•	(loom) 11.75	Maii Panublic Maii Franc	910.25	Switzerland Swiss Franc	3.5125 (A\8.448
ı	Czechoslovakia Koruna	nic 22.60	Malta (Si Maltese £	0,7600	Syria Syria £	
ı		(T)19.78	I Martin Alia Local Franc	9.1025	Taiwan New Taiwan	P177.454
ı	Denmark Danish Krone	11.20	Mauritania Ougulya 🗈	90.965	Taiwan New Taiwan Tanzania (S) Tan. Shilling	17,80
ı	Djibouti Fr.	365.0		12.7512	Thailand Baht	43,57
ı	Dominica (S) E. Caribbean S	5.81	Mexico Mexican Peso	48,66	Togo Republic C.F.A. Franc	4551
ſ	Djibouti	2.1515		45516	Tonga Islands (5) Palanga	1.9073
ı	•	(0) 53.10	Monaco French Franc	9.1025 (0:6.542(j)	Trinidad ISI Trinidad & 100° 5	5.164 0.874(Sg)
ı	Ecuador Sucre	(F) 60.20	Mongolia Tugrik Monserrat E. Caribbean \$	5.81	Thailand	106.53
١	Egypt Egyptian £	(U) 1.5825	Morocco Dirham	8.35	Turks & Calcos U.S. S	2,1515
ı	Equatorial Guinea. Peseta	142.05	Morocco Dirham Mogzambius Moz. Escudo	, 65.096	Tuvalu Australian S	1.9165
Į	Ethiopia Ethiopian Birr	(P) 4.4587	ł		Uganda (Sl Uganda Shilling	16,00
ı		_	Nauru Australian Dollar	1.9165	United States U.S. Dollar	2,1515
I	Faikland Islands (\$ Faikland Is, £	1.0	i Nepai Nepaiese Kupee	25.B2	1	icm)17.4
ı	Faro Islands Danish Krone	11,20	l Natherizids Guilder	4.2875	Uruguay Uruguay Peso	·ifn·17.39
ŧ	Fiji Islands Fiji &	1,7965	NetherlandAntilles Antillian Guilder	3.8511	Utd. Arab Emirates U.A.E. Dirham	8.13
Į	Finland Markka	8.28 9.1025	New Hebrides Franc.	147.11	U.S.S.R Rouble	1.4720
ì	France French Franc FrenchC'tyin A.C C.F.A. Franc	45518	Aust Dollar	1,9165	Upper Voita C.F.A. Franc	455 's
ı	French Gulana Local Franc	9.1025	New Zezland (S) N. Z. Dollar	2.1615	Vatican Italian Lire	1751.5
ı	French Pacific Is. C.F.P. Franc	165.5	Nicaragua Cordoba	21.35	Venezuela Bolivar	9.16
ı		• •	Niger Republic C. F. A. Franc	4551g		1014.69
1	Gabon C.F.A. Franc Gambia (S) Dalasi	4551g	Nigeria (S) Naira	1.267318(sg) 10.77	Vietnam Dong	(17)4.82
Į	Gambia (3) Dalasi	4.0	Norway Norway Krone	10.77	Virgin Islands U.S. U.S. Dollar	2.1516
ſ	Garmany (East) Ostmark	. 3.90	Oman Sul'ate of (5) Rial Omani	0.741	Western Samoa (5) Samoan Tála	1.9047
ı	Germany (West) Deutsche Mark	5.90	1	21.075	Yemen Ryal	9_70(sg)
ı	Ghana (5) Gedi Gibraltar (K) Gibraltar £	6.09 (sg)	Pekistan Rupee		Yugoslavia New Y Dinar	40.8632
ı	Gibrartay (K), Gibrartar & Gilbert Islands Australian \$	1.0 1.9165	Panama Balboa Papus N. Guinea(S) Kina	2.1515 1.5330	Zalre Republic Zaire	4,468267
ı	Greece Drachma	80.516	Paraguay	266.44	Zambia Kwacha	1.695
				200.77	· months and its annual control in the Control in t	

‡‡ Now one official rate. (U) United Rate. Applicable on all transactions except countries having a bilateral agreement with Egypt, and (ii) Based on cross rates against Russian rouble. • Incentive Rate.

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Fresh early Wall St. advance in active trade

PREMIUM \$2.60 to £1—321% (311%)

Effective \$2.1515 916% (91%) HELPED BY news that the United Auto Workers and General Motors have reached a tentative contract settlement, avoiding a strike, Wall Street scored a fresh advance in further active early dealings yesterday.

However, the market was some way below its best level at midsession, with the Dow Jones Industrial Average recording a fresh net gain of 5.03 at 884.13 at 1 pm, after touching 886.77 at 11 am. The NYSE All Common

Closing prices and market reports were not available for this edition.

index was 25 cents higher at \$62.33, after reaching \$62.50, while rises led falls at midsession by a four-to-three margin. Turnover came to 27.04m shares, against last Friday's 1 pm figure of 28.71m.

Despite the market's bullish response, analysts said they expected that the settlement will he viewed as inflationary when details become known and thus depress market sentiment. Money market analysts have

already predicted that the settle-ment will lead to higher interest

36

87 341₂

NEW YORK

Amer, Airlines

Amer. Nat. Res... Amer. Standard... Amer Stores...... Amer. Tel. & Tel.

Ashland Oil....

Beckman Inst.... 275; Beat 'nDick'nson 345;

ck & Decker..

Active General Motors rose \(\) business paper. Imperial Oil 4.18 more to a new all-time high to \$52\(\) on the contract news.

"A" rose \$1 to \$38\(\). Imperial of 576.77.

However, Chrysler, whose financial assistance plan, submitted to permit the company to start Government in the South Ausover the weekend, was rejected its Cold Lake heavy oil project trailian State election gave sharp by the Government, eased \(\) to by the year end.

its anti-trust case against IBM. Trans World picked up 11 to \$247. Texas International Airlines recently purchased a stake in Trans World.

Weyerhaeuser moved up } to \$32; on predicting higher annual net profits. McGraw-Edison. however, receded \$1 to \$29%. It said it now holds 95 per cent of the stock of Studebaker-Worthington, unchanged at \$512. Oak Industries shed 2 to \$294. The company is planning to offer 850,000 shares of its Common

Responding to Gold hitting another record high yesterday, Handy and Harman rose \$2 to 529; Engelhard Minerals to 549; ASA to \$27; and Campbell Rediake to \$23.

THE AMERICAN SE Market Value Index was 0.34 higher at 228.26 at 1 pm after another sizeable volume of 3.40m shares

Active Bowmal Instrument climbed 11 to \$54. It was mentioned favourably in a weekly All Ordinaries index advanced

Getty Oil 61
Gillette 261
GK.Technologies 221
Goodrich B.F. 251
Goodyear Tire. 261
Gould 267
Grane W.R. 38
Grt. Atlan PacTea 91
Grt. North Iron. 261
Grayhound 157
Guif & Western. 157
Guif Oil 351
Halliburton 313
Harnischfeger. 251
Harnischfeger. 251
Harnis Copp. 366
Heinz H. J. 411
Heublein 28

Stock

Johns Manville... Johnson Johnson Johnson Control

Joy Manufacture K. Mart..... Kaiser Aluminum

Кау Кеппесоtt

2618 7418 28

1614

Kay 15½ 1458
Kennecott 27
Kerr McGee 5818
Kidde Waiter 378
Kimberley Clark 4458
Koppers 26
Kraft 4712
Kroger Co 2518
Levi Strauss 253
Libbey Ow. Ford. 277
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275

Overseas Ship.
Ovens Corning...
Ovens Itifnots...
Pacific Gas...
Pacific Lighting.
Pac. Pwr. & LigPan Am World Air
Parker Hannifin.
Penn-Pwr. & LigPenney (J.C.)
Penney (J.C.)
Pennezoil
Peoples Drug
Peoples Gas
Pepsico

Polaroid
Potomae Elec ...
PPG industries
PPG industries
Procter Gamble
Pub. Serv. Elec.
Pullman
Purex
Quaker Oats
Rapid American,
Raytheon ...
RCA...
Republic Steel ...
Resorts inti.....

Memorex Merck Merriil Lynch....

IBM gained 14 to \$691. The stating last week that it knew Justice Department said it is of no reason for the recent willing to discuss settlement of sharp rise in its share price.

Canada

Markets remained buoyant yesterday morning in heavy trading. The Toronto Composite index climbed 5.1 more to 1730.0 at noon, while the Golds index advanced 17.6 to 2,114.7 and Oils and Gas 13.5 to 3,374.7. In Montreal, Utilities put on 0.49 to 249.35 and Papers 0.52 to 178.65.

Bell Canada, the most active Toronto Industrial, shed i to C\$211 on 181,031 shares.
Among Oil issues, Alberta
Gas "A" gained 1 to C\$271,
Mercen 1 to C\$301 and Hudson's Bay Oil 11 to CS92,

Ahitibi Paper, which announ-ed a dividend increase, ced a dividend hardened 1 to C\$201.

Australia

Markets remained very strong generally yesterday despite while Coal stocks were also well some profit-taking in the afternoon session, and the Sydney gaining 22 cents to A52.68 and

Stock

Reynolds Metals.
Reynolds (R.J.))... 634,
Rich'son Marrell
Rockwell Inter... 421;
Rohm & Hass.... 461s

Southern Co...... Southern Nat Res

Tenneco.
TesoroPetr'Isum
Texasco.
Texas Eastern.
Texas Eastern.
Texas Oil & Gas.
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Tri-Continental
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Tyler
U.A.L
UG:
UNIC Resources
Unilever
Unilever NV
Unilever NV
Union Carbide
Union Oil Calif

Warner-Commn :
Warner-Lambert
Waste-Man,ment
Wells-Fargo....
Western Bancorp
Western N.Amer.
Western Union...
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Whiripool....
White Con Ind ...

Pan Can Petrol'm
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Place Gas & Oil
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QuebecSturgeon
Ranger Oil
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Rio Algom
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Sceptre Res'urce'
\$eagram
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Simpson
Steel of Canada.
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TransMount Pipe
Trizec...
Union Gas
Unid Siscoe Mies
Walker Hiram...
West Coast Trans
West Coast Trans
West Coast Trans

and also boosted shares of gas

producers. Western Mining, up 22 cents at A\$3.60, and other companies with uranium interests in the State rose sharply.

Participants in the Beverley uranium venture, now considered a likely starter, forged ahead, with Ollmin adding 27 cents at A\$1.25, Petromin 32 cents at 32 cents and Transoil 21 cents at 92 cents.

Uranium stocks involved in the Northern Territory projects, however, were steady to easier after sharp falls last Friday when the Australian Council of Trade Unions Congress voted to maintain bans on uranium

maintain baths on transition mining and exports.

Among South Australian gas producers, Vamgas advanced 7 cents to A\$2.15 and Santos 29 cents to A\$5.14, while Santos's major shareholder, Bond Corporation, moved ahead 14 cents to A31.51.

BHP rose 20 cents to ASI0.35, Utah 10 cents to A\$4.25.

Williams Co. 2354 2254 Waconsin Elect. 2559 2514 Woolworth 2954 29 Woyly 664 644 Xerox 6519 6412 Zapata 2559 2212 Zenith Radio 1518 1234 U.S. Treas. 42 80 1 97 197 USTreas41275/651 8054 18078 U.S. 90 day bills. 10.292 10.492

CANADA

Abitibi Paper 20
Agnico Eagle 475
Alcan Aluminium 477
Algoma Steel 297
Asbestos 421
Bank Montreal 24
Bank NovaScotia 24
Bank NovaScotia 24

Cons. Bathurst. 141

Dupont 2212 2212
Falcon'ge Nickel 7012 72
Ford Motor Can 7114 7112

Genstar 2718 | GiantYell'wknife 11 | GuifOllof Canada 1001s | Hawker Sid. Can. 1714 | Hollinger 45 | Kome Oil 'A' 83 | Hudson Bay Mng. 2514 | Hudson's Bay 27

Chieftain....

Sept. Sept. 14 | 13

BH South reacted 20 cents to apiece, while Deutsche Bank AS2.70 after reporting another, although reduced, loss. In the Machine sector, KHD and

Tokyo

After a firmer start, the market reacted on profit-taking to leave a majority of issues lower on the day. Business was moderate, with volume on the First Market section reaching only 200m shares, compared with last Priday's 300m.

A dealer commented that investors were showing cau-tion over the rapid pace of price increases last week when the Nikkei-Dow index hit an all-time high. Yesterday, the Nikkei-Dow Jones Average lost 16.88 to 6.438.12, while the Tokyo SE index shed 0.65 to 454.59 and declines outnumbered gains by 369 to 244 at the

Leading Electricals, Precision Machinery Manufacturers and Pharmaceuticals closed on a weaker note, with Sony shedding Y60 to Y1,910 and Takeda Chemical Y8 to Y502.

Some speculative issues such the Trading Houses and Oil

Some speculative issues such as Trading Houses and Oil stocks were initially bought on news that promising oil fields have been discovered in the Continental Shelf off the North-eastern coast of Sakhalin, but these sectors were mixed on

Some Steels attracted institutional buying with Nippon Steel, Y122, and Kawasaki Steel, Y127, gaining Y1 apiece.

Germany

Share prices finshed with trading session.

mixed movements on balance after a session which brokers said started on a quietly easier the Colony's financial secretary note but livened up as some that GDP here should grow by institutional and foreign 12 per cent this year and not investors entered the market.

Believe added that they give the colony's financial secretary the Colony's financial secretary that GDP here should grow by institutional and foreign 12 per cent this year and not investors entered the market. Brokers added that they suspected British incrests of shopping on the German stock
markets to hedge against the
rapidly weakening pound. The Commerzbank index was a mere 15 down on the day at 765.6.

NOTES: Overseas prices shown below exclude S premium. Belgian dividends are after withholding tax.

+ DM 50 denom unless otherwise stated, yields based on net dividends plus tex ♥ Pta 500 denom, unless otherwise stated. DKr 100 denom, unless otherwise # DRT 160 denom. and Beater sheres unless otherwise stated. 1 Y50 denom. unless otherwise stated. 2 Price at timo of suspension. a Plorins. b Schüllings.

Manuesmann each added DM 1, but MAN receded DM 2 and Babcock DM 1.50.

Predictions by an industry association that production of construction - related machinery would decline in the second half of 1979 did not have a uniform effect on Machine share trading, observers noted, and said the prediction was probably not a significant factor in trading.

Among Stores, Rarstadt added DM 150, while Kaulfoof hardened 50 pfennigs, German newspapers reported over the week-end that Kaufhof had excellent results in a jubilee sale to mark the department store chain's 100 years anniversary. Motors were reactionary after

recent strength, with BMW losing DM 1 and Volkswagen DM 1.30. Public Authority Bonds eased

up to 15 pfennigs in small trading. The Bundesbank sold DM 1m nominal of paper after selling DM 33.8m last Friday. Mark-denominated Foreign Loans were steady after recent losses.

Hong Kong

In the wake of a strong over-night London performance for Hong Kong stocks, the market here staged an initial advance, here staged an initial advance, but a good deal of the gain was later eroded by profit-taking as attention turned to the Gold market. The Hang Seng Index, up 8 points at its best of the day, closed a net 3.96 higher at 599.87 after a fairly active

there was subsequent market disappointment when the session drew to a close with no new Gains were made by Banks terms emerging. Hutchison and some Machine Manufacturers. Dresdner Bank and HK85.10, while China Prevident Commerchank put on DM 3 remained suspended.

c Cents, d Dividend after pending rights and/or scrip issue. e Per share. f Francs. g Gross div. "". h Assumed dividend after scrip and/or rights issue, k After local taxes. m "5 tax free. n Francs including Unitac div. p Nom. g Share split. s Div. and yield exclude special payment. r Indicated div. u Unofficial trading. v Misority holders only. y Merger ponding. "Asked t Bid. § Traded. t Saller. x Assumed. xr Ex rights. xd Ex dividend. xc Ex scrip issue. xe Ex all. A Interim since increased.

Prices + or Div. Yid

TOKYO ¶

Sept. 17

Indices

NEW YORK-DOW JONES

							10	-313	Hings-Oc	Motor
	Sept.	3ept	29pt.	Sept.	10	7	High	Low	High	Low
									l	ļ
e (ndustr'is							(F1/4)	\$677,04 (27)(E)	(11/17)	41.5
K'me 5'nds							(TELEN	(84.98 84.98	-	_
Transport	265.50	263.93	360,25	256.81	288.61	266.67	277,77 (1848)	256.74 (27/3)	279.49 (7:2:48)	12.51
Utilities	107.05	207,48	X00. 19	197.71	186.09	108.42	169,61 (21/6)	10.1)93.12 (39/4/93)	10 %
Trading Vol	42,080	35,600	29 ,580	49.850	55.112	54 ,44 1		-		-

4 Day's high 884.55 low 968.60

Sept. sept. Sept. Sept. Nigh | Low

62.08 61.53 61.48 61.29 62.40 53.85 (51/8) (22/6)

٠,	ind. div. yield 🖫			Sept. 7 Aug.				AUG-	7 74	Aer. sad (stible)		
ij	ind. di	A. Aleic	7		6.67 6.55		18	5.07		5.21		
	STANDARD	AND P	oors									:
		i	!		Sept.	-			79	Since (inpert t'n	
1		14	3apt.	13	11	10	300	High	LOW	Righ	Low	
.	:ladust'is	121.95	129,12	120.07	112.84	120.42	118.2	123.67	197.0	(14444 (14444)	122	
	40-mansite	208.78	787.86	207.85	107.53	788.37	187.5		16 16	25.08	(ontaile)	

(FUE) (CO/RD 2011/1/20) (1 1/42)

	Sept. 13	Sept. &	Aug. 22	Year ago (app
Ind. div. yield %	5.05	5,12	4.98	4.68
ind. P/E Ratio	12.93	7.87	8.49	9,58
Lond Gov. Bond Yield N.Y.S.E. ALL COMMON	9,11	9,11.	8,96 Rises a	6.88 nd Falls
M.T.S.E. ACL COMMON	1979	- <u> </u>	Gep.	t.14 Sept. 18 Sep

, , , .			N	IW LOW	P-1-7-1-1	20 6	
MONTREAL	Sept	Sept.	Sept.	Sept	1979		
	14			11	Kigh	Low	
industrial Combined	312.45 500.50	509,85 297,81	3 10.58 201.80	186.53F 286.18	512.86 (14/9) 500.52 (14/8)	214.19 (2/f) 225.00 (2/f)	
TORONTO Composite	1761.5	1719:0	1727. I	1715.7	1781.9 (14/9)	7276.3 (2/1)	
JOHANNESBURG Gold Industrial	549.5 2.635				546.2 (5.4) 356.3 (12/5)	228.6 (17.0 270.5 (27)	

MALE(Go		. [548.5 558.5	555.5 558.5	243.5 586.5	842,1 856.7		6.3 (12 6.3 (12		228.6 (270.6	17, 0 (271)
	,	Sopt.	Pro-	1979 High	1979 Low	<u> </u>			Sept. 17	Pre- vious	1979 high	
stralia	(?)	67E.37	672.64	676.77 (17/8)	546.72 (2/1)	Spe		(4)		91.47	111,96 (815)	(14.5)
ngium		105.28		(5/7)	85.80		rden -	- 7		545.40	(8/6)	(11/8) (11/8)
mmark	٠.			(25/7)	88.52	5wi	tzerid 		314.1	817.4	(8/5)	(3/1)
	(11)	87-5	26.2	(14/8)	11.5 (15/2)	Dec 197			SE AL	noterdi		lostisi 1/7/6i
rmany i			767.1	(16/1)	719.4 (7:6)	- 10	lanca Nyo	Ĉ:	mmer SE	ciale	tellena 68. b	1972 Streets
land			74.5	(24/1)	71.3 (7/6)	29/	19 12/78	+ 5	tockho	osed. Im Ind	netrial	1/1/20
ng Kon		5,99.97 28.45		(13/8)	495.83 (2/1) 68.38	app	Visa I I.	ae i	Com	oratio	u U	nevel.
	(13) (-)			(31/6)	(2(1)	-	FRO	٦À١	/S A	TIVE	STO	A.C.

Indices and base dates (3% base values 100 except NYSE All Common - 50: Standards and Poors—10; and Toronto 300—1,000: the last named based on 1975). † Excluding bonds, † 400 industriats. § 400 industriats. 40 Villines, 40 Finance and 20 Transport. † Sydney All Ordinary. | Belgien SE 17/12/63. ** Commangen SE 1/17/73. †† Paris Bourse 1961. ‡† Commarzhank STOCKHOLM

GERMANY + Price + or Div. Yld

Sept. 17	DM.	-	%	2	Sept. 17
		i			Asahi Glass
EG	45.5	-0.4	-	_	Canon
Ulianz Versich			31.2	3.3	Casio
HF-BANK,	700	_O.5	28.19	7.0	Chinen
MW	183.5	5 0.5 1	28 19	7.6	Dai NipponPr
ASF	138.1	±0.1	18.76	6.8	Fuli Photo
ayer		+0.1			Hitachi
ayer-Hypo	257	1.3 I	28.12		Honda Motor
lay. Vereinsbk	289	÷3	28,12		House Food
ommerzbank.	204	+3	26.56		C. Itoh
conti Gummi					Ito Yokado
amler-Benz			28.19	5.4	Jaccs
egussa		+0.4			J.A.L.,
)emag			17.18	10.8	Kansai Elect.F
eutsche Bank		+0.5	28. 19	5.0	Komatsu
resdner Bank		+3	28 12	6.6	
yckerhoffze't.			28.12 12.5	4.1	Kubota
istehoffnungi		+0.5	18.76	4.5	Kyoto-Carami
	·	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Matsushita In
lapag Lloyd		+0.5	15 C	27	Mitsubishi Bar
arpener		-0.3	19.0	2.0	Mitsubishi Ele
loechst	130.2	-0.5	10'16		Mitsubishi He'
loesch	175		0 27	2.5	Mitsubishi Co
lorten	144 0		1 ~ 02	5.4	Mitsuj & Co
Call und Salz	355 E	-0.8 +1.5	93 44	4.4	Mitsukoshi
arstadt	100.0	+0.5	-0:T	6.2	Nippon Denso
Cauthot		0.4			NipponShimp
(locknerDM.185 (HD		- T	01.00	E o	Nissan Motors
Crupp DM 100.	81	+1	21.88		Pioneer,
inde	296	_i	25	4.2	Sanyo Elect
o'bran DM.100	1.410			1.7	Sekisui Prefa
ufthansa		-0.2	10.94		Shiseido
			21.88		Sony
A.A.N			17.18		Taisho Marine
farnesmann		_2	12.5		Takeda Chem
Actaliges Aunebener Rek			28,12		7DK
leckermann		+0.6			Teijin,
	177	Tire		_	Tokyo Marine
reuss'g DM100 theinWestElect	106 6	72.3	96	6.7	Tokyo ElectPo
chering	944	+1.9	99, 10	5.8	Tokyo Sanyo.
iemens	958	1.7	98.1	47	Тогау
ud Zucker	264		20 82	5.6	Toshiba Corp
hyssen A.G.	94.2	-0.1	212.5	6.5	Toyota Motor
hyssen A.G Arta	94.2 177	_0.5	16 is	4.B	
/EBA	152.8	+0.8	18.72	6.1	Source: N
EBA	981		28 10	50	

Ahold (Fl.20).....

	Alg'mBk(F(100) Amev (FI.10) Amrob'k (FI.20). Bijenkorf	100.3 70.8	—1 —0.ŏ —0.8	A26 60 (25 28	7.0 7.0 7.0
	BokaW'stm Fl. 18 Buhrm' Tetter' Elsey'r-NDU Fl20 Ennia N.V. B'rer	108.6 62.3 267	+0.5 -0.8 -1		7.5 8.6
	EurComTst F110 Gist-Broc (F10) Heineken (F125) Hoog'ns (F1.20).	70.3 42 81.8	-0.4 -0.3	94.5 22 A14	4.4 5.4
į	HunterD.(Fl.100 K.L.M. (Fl.100) Int.Muller(Fl.20 Nat-Nedins F110	22.5 101.5 31.4 117.4	-0.5 -0.5 -0.7 +0.8	1.8 43 19 55	5. 9.9 12.4
	NedCr'dSkF1,20 NedMidBkF7.50 Oce (F1,20) Van Ommeren	232 154.2	+0.2	22.5 24 38	7.5 5.3 4.9
	Pakhoed (Fl. 20 Philips (Fl. 10) RinSchVer(Fl100 Robeco (Fl.)	52 23.5 45.8	-0.5 -0.2 +0.5	18 26.4	7.5
	Rodamco (Fl.25) Rolinco (Fl.50) Rorento (Fl. 50) RoyalDutchFl20	104.8 144 110.8	+0.4 +0.5	3 219.5 53.75	11.4
	Slavenburg Tokyo PacHids& Unilever (F1.20). Viking Res	128.0 129.2	 	\$0.50	0.0 6.1
	Volker StynFl.20 West.Utr. Hypok	-		30 33	7.1 4.1

90.5 +0.5 122 4.9 28.8.—0.8 -- -

COPENHAGEN +

Sept. 17	Price Kroner	+ or	Div.	Yld.		
Andelsbanken Danske Bank East Asiatic Co. Finansbanken Brysgerier For Papir Handelsbank G.Nthn.H.(Kr90) Nord Kabel Nove Ind' str's 8 Oliefabrik Privatbank Soph.Berensen Superfos	157 288 110 1205; 282 167 2164; 143	-14 -15; -2 -14 -7 -14 -15;	12 10 10 12 12 12 12 12 10 10 10 10 10 10 10 10 10 10 10 10 10	7.9 9.8 7.8 10.2 4.2 		
VIENNA						
Sept. 17	Price %	+ %	Div.	Algr Algr		

-1 -2 +3 +9 -4 +1 -10 -13 +4 -10 -2 -2 -10

BRUSSELS/LUXEMBOURG

Sept. 17	Price Frs.	+ or		YIG. [
Arbed	2.605	+20		<u> </u>
Bekaert "B"	2,380		130 i	5.4
C.B.R. Cement	1.068	+18	80	7.4
Cockerill	419	+5	I	_
EBE\$		+5	177	8.1
Electrobal,	6.650	<u>–</u> 10	455	8.8
Fabrique Nat	3.540		250	7.0
G.B. Inno Bm			170	6.6
Gevaert		+2	85	7.3
GBL (Brux L)	1.750	+5	90	6.1
Hobokan		÷80		6.2
intercom		1		8.3
Kredietbank	7.980		330	4.6
La Royale Belge			e525	5.5
Pan Holding	3.120		52.60	
Petrofina	5.120		190	3.7
Soc Gen Banque			220	7.2
Soc. Gen. Belge	1.790		140	7.8
Sofing	3.560	~5	225	6.3 l
Solvav		-15	42 78	8.0 l
Traction Elect.			185	7.3
UCB	1,520		_	1 1
Un Min. (1/10)	746	-14	40	6.3
Wall- 191-444	9 466	1		

SWITZERLAND &

Soc. Gen. Beige	1.790	m m	140	7.8		Price	1 — ог	Div.	Yld.	ı
Sofina	5.560	~5	225	6.3	Sept 17	Fra.	-	Frs.		1
Solvay	2.620	-15	A2 78							,
raction Elect.	2,530	<u> 35</u>	185	7.5	Rente 41	1.587	+9 .	416	0.3	ı
JCB			_	_	Afrique Occ at.	341	-5	34.75	7.2	ı
Jn Min. (1/10)	746	_14	40	6.3	Air Liquide	509	+10	16.5	3.3	ı
∕ielle M'ntagne	1.466	+4			BIC.,	658	_1	16.5	2.5	ı
					Souvaues		3	31.5		ŀ
				1	B.S.N. Gervala			45	4.5	1
WITZERLAN	DA				Carrefour	1.770	+15		4.4	١.
		-		1	C.G.E			31.5		1
·	Price	+or			C.I.T. Aicatel	1.230	+41	Bī	6.7	ı
Sept. 17	Frs.		3	8	Cle, Bancaire		+2	15	3.3	i.
	 	<u> </u>	-		Club Meditere		TA	40	2.1	ŀ
	ŀ	1			Cr'dit C'm. Free		1200	12.75	7.6	ı
Aluminium	1,300	+10	8	5.1	Creusot Loire			T-C-10		ı
BBC 'A'	[1,890	+5	10	2.6	Dumez	200			T. 1	ı.
CibaGeigy Fr100	1,25Q		22	1.8	Elf-Aguitaine	844	7 -30	64,76	3.9	ľ
Do. Part Cert	1,080		22	2.2	Fr. Petroles	2,070		28,25	84	ľ
Do. Res	702	+2	22	3.1			-5	15	6.1	П
Do. Reg Credit Sulsse	2.250	25	16	3.6	Gen, Occid'nt'ie		X	18	8.9	ľ
Electrowatt	2.130			2.3	imetal	64.0	+0.1	6.71	8.9	ı.
Fischer(Georg)		+5	- 5	3.6	Jacques Borel	121.5	-0.6			ľ
HoffmanPtGert.	74,000			1.5	Lafarge	278.6		20.18	7.8	П
					L'Oreal	730	+11	22.5		١.
Do. (Small)	7.670		110	1.5	Legrand	3.860		94.25	2.4	L.
nterfood B		+60	22	2.4	Mais ns Phoenix	578	_2	59.8	6.9	П
elmoli (Fr. 100)	1,400	_20 !	81	1.4	Michelin "B"	903		11.05	4.5	
Vestle (Fr.100)			281.5		MostHennessey	670		16.78		Ĺ
Do. Reg	2,360		at Ba	5.4	Moulinex		_1.7			Ĺ
Derlikon B(F250		<u>-5</u>	15	1.5	Paribas	234		.3.	8.1	ı
Pirelli (F100),	291		15	5.1	Bearing thursday		*******	10.18		١,
andoz (F.250)	4.825	+25	26	1.5	Pachingy		-1.9		7.8	١.
Do Part Certs.			26	2.4	Permod Ricard		+8.5	9 (3.0 l	
chind'rCtF100			12	3.6	PaugaotCitroan	292		20.28	6.6	Ι.
Wizer Ct (F100)		+4	14	3.5	Poçlain	304.8	-6.2			ľ
Wissalr (F.850)		¥2	10	4.4	RadioT chnique	366	3	.30	8.1	
w,8k,Cp(F100)		-i	10	2.6	Redouta	496 B		30	7.6	П
w.Reins.(F250)	E 495	+75	26	1.7	Rhone Poulenc-	136,5	10.3	10.5		i
Inion Bank	2,070	1 10	20		St. Gobain	159.4	.0.2	14.85		Ľ
TINGT DUNK	17.000	*******		3.1	Skis Rossignol	1 400.7	-10	250		ď
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<u>-</u>	<u></u> _			<u> </u>	Telemecanique	843		27	9.2	
				{	ThomsonBrandb			59.75	3.7	i
MLAN				- 1	Usinor		5	16.2	6.4	
				1	A CONTACT IN CONTACT I	15.50	***	<u> </u>	- 1	. !
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154 5 4.1 34 15 9.8	MILAN	_			
12 9.0 13 4.0 16 -5 12 9.1	Sept. 17	Price Life	+ or	Div. Lire	Yid.
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+ or Div. Yid.	Italcementi Italaider	340	-250 +5	-	2.8
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AUST. F		subcrit intolot - Kt 7
	_	AGA AB (Kr. 50), 155
10.71		AlfaLavaj (Kr.50 117 -1 6 5.1
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0.34	2000	Ericason B (Kr60 116 -2 1 5.5 4.9
12.10	+0.02	Essalta (Free) 146x1-4 5.5 3.6
j 2.10		Fagersta
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11.27	+8.05	Handelebanken 277 -11 18.5 6.5
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12.33	+0.05	Sandvik'B' Kri00 225
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+1_86		Volvo (Kr.50) 72 -0.6 7 9.5
14.32	0.05	1010 (10100)2
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t3.96	1 i	Sept 17 Kroner — 2 %
1.80		- dept 11 Ideales - 3 1
10.93	+8.01	Bergen Bank 103 6 6.5
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	10.04	Norsk HydraKr8 541.0-8.75 12 1.9
†3.18	-0.02	Storebrand 115.0 +1.5 10 8.5
†1.85	-0.05	
+0.65	0.84	
†2.35 ±0.30≰	+0.01	IOHANNESBURG
10.86	+0.67	
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72.40		Sept. 17 Rend +or-

+0.07 +0.01

-8.05 +0.02 +0.02 -9.01 +0.05 -0.01 +0.02 -0.01 +0.82

†1.22 †0.23 †0.25 †1.50 †1.50 †1.50 †1.04 †2.26 †0.16 †1.73 †1.75 †1.75 †1.88 †1.85 †1.85 †1.68

Turnover: Cr.261.8m. Volume: 133.3m Source: Rio de Jeneiro SE

OZLO			-	
Sept 17	Price Kroner	+01	Div.	V)
Bergen Bank Borregaard Creditbank Kosmos Kreditkassen Norsk HydroKr8	103 75 117.75 565.0 ,117.0 541.0	+2.5 -0.5 -2.75	5 11 10 11 12	5101
Storebrand	118.0	+1.5	10	8.

OHANNESBURG		- .
MINES		
ept. 17	Rand	+0-
ngle American Con.	9.15	
harrer Consolidated	3.50	-0.05 -0.15
ast Driefontein ,	16.10	-0.15
(\$Dufg	2.55	-0.02
atmony		+0.05
Inross	8.25	-0.05
loof Ptatioum	19.00	-0.10
r Hejeva	3.10	
outhyasi	25.00 16.25	+0.25
old Fields SA	42.50	-0.90
nion Corporation	9.10	-0.30 -0.30
a Beers Defanted	9.15	+0.00
Yvooruitzicht	8.55	, .,,,,
est Rand Pty	12.00	· ·
res State Geduld	36.50	40 10
resident Brand	25.26	+0.25
resident Steyn	22.60	1.0.10
tillontein	9.00	-0.15
Vest Driefontein	8.30 57.00	+0.18 +0.25
Antero Holdinge	43-50	_0.00

+0.04 +0.04 +0.22

West Driefontein	57.00	÷ŏ.
Western Holdings Western Deep	43.50 20.50	0.5 0.5
: MDUSTRIA	US:	·· ·· -
AECI	4.83	
Apa(COM	2.57	, —0,
Anglo-Amer. Industrial Barlow Rand	18.25 6.60	+0.
CNA Investments	3.00	70.
Currie Philance	1,03	" .
Eugera Conso. Inv	14.00	` -2 1
Edgars Stores Fed. Volksbeleggings	2.30	-2
Greatermana Stores	3.40	-0.
Huletta	3.70	
LTA	2.60	-0.
McCerehy Rodway	0.80 4.10	-0.
OK Bezaers	9.70-	· :
Premier Milling	5.40	· :
Pretoria Cement	5,60	
Protes Holdings	210	-0. -0.
Rand Mines Properties Rembrandt Group	3.65 4,77	-2.
Hatco	D.49	
Sage Holdings	1.90	
DATT	4.35	+0.
C. G. Smith Sugar	17.60	+0.
SA Brewaries liger Date and N. Mig.	1.81 11:30	-01
Inicae	1 66	

Financial Rand U.S.\$0.89

96.0—1.7 3 8.1 23410.13 4.8	(Discount of 25!%)
95.6.—1.9 7.5 7.8 291.8 + 8.5 9 8.0 1. 292 + 0.5 28.28 8.0 368 - 3 80 8.1 436.5 + 9.5 30 7.0 21.66.5 + 9.5 10.4 7.0 139.4 - 0.6 14.85 10.4 1.490 - 10 38 2.7 292 - 5 87 9.2 183.6 843 - 88.7 1.490 - 10 38 2.7 1.490 - 10 38 6.4	SPAIN V Soptember 14
Price + or Cruzi Vid.	Benco Medrid
1.18 +0.040.14 12.28 1.66 +0.010.116.65 1.40 -0.0063.56 2.14 +0.040.209.59 1.60 -0.0063.71 1.40 -0.0063.71 1.40 -0.0063.71 2.89 +0.800.082.82 4.11 -0.020.185.35	Dragados 120 63 65 65 65 65 65 65 65
51.6m. Volume: 133.3m. Rio de Jeneiro SE.	Telefonica 63 Union Elec. 63.50 4 0.50

BASE LENDING RATES

A.B.N. Bank American Express I Henry Ansbacher A P Bank Ltd. Associates Cap. Corp Banco de Bilbao Bank of Credit & Cme Bank of Cyprus Bank of N.S.W. Banque Beige Ltd. Banque du Rhone et la Tamise S.A. Barclays Bank Bremar Holdings L Brit. Bank of Mid. Es Brown Shipley Canada Perm't Trust Cayzer Ltd. Cedar Holdings Charterhouse Japhet Choulartons C. E. Coates Consolidated Credits Cooperative Bank Corinthian Secs. Credit Lyonnais The Cyprus Popular I Duncan Lawrie Eagil Trust English Transcont First Nat. Secs. Ltd. Antony Gibbs Greyhound Guaranty	14 14 14 14 14 14 14 14 14 14 14 14 14 1	C. Hoare & Co. 114 9 Julian S. Hodge 15 9 Hongkong & Shanghai 14 9 Industrial Bk. of Scot. 141 9 Keyser Ullmann 14 9 Knowsley & Co. I.d. 151 9 Lloyds Bank 14 9 London Mercantile 14 9 Edward Manson & Co. 15 9 Midland Bank 14 9 Morgan Grenfell 14 9 Morgan Grenfell 14 9 Norwich General Trust 14 9 Norwich General Trust 14 9 S. Refson & Co. 14 9 Ryl Bk. Canada (Ldn.) 14 9 Schlesinger Limited 14 9 E. S. Schwab 15 9 Security Trust Co. Ltd. 15 9 Shenley Trust Co. Ltd. 15 9 Shenley Trust Co. Ltd. 15 9 Standard Chartered 14 9 Trustee Savings Bank 14 9 Williams & Glyn's 14 9 Williams & Glyn's 14 9 Wembers of the Accepting House Committee. 2 7-day deposits 11 9 7-day deposits 11 1 1 month deposits 11 9 7-day deposits 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Greyhound Guaranty Grindlays Bank Guinness Mahon	14 %	
■ Hambros Bank	14 %	9 Demand deposits 117%.

EUROI	PEAN OF	PTIONS	EXCHAN	GE
Series	Vol. Last	Jan. Vol. Last	April Vol. Last	Stock
AKZ C F.26 AKZ C F.27.50 AKZ C F.30 AKZ C F.32.50 AKZ C F.32.50	10 0.40 8 0.10	1 2.70 48 0.70	2 6 12 2 	F,28.80
AKZ P F.32.50 ARB C F.70 HO C F.32.50 HO C F.32.50 (BM C \$75 KLM C F.100	5 1.60 7 0.40 38 4.80	30 3.50 3 6 7.20	10 5.40	F.70,80 F.31,50 \$683, F.100,80
KLM G F.110 KLM C F.120 KLM P F.100 KLM P F.110 NN C F.115 NN C F.120 PHI C F.22,50 PHI C F.23,50 PHI C F.25 P	82 1.40 25 8.80 50 8.60 30 1.60 2 1 	16 3.10 18 1 3.20 58 9.50 20 11 15 6.70 41 3.70 60 1.70 98 0.60 29 0.10	7 5.50 10 2.40 108 1,10	F.117.40 F.23.50 S287 ₆ F.146.50
RD C F.145 RD C F.150 RD C F.160 RD P F.145 RD P F.145 RD P F.150 XRX C \$70	78 5.70 51 1.40 18 0.70 5 4.50	51 7 128 4,50 91 1,50 1 1,70 8 3,30 10 5,80 10 256	•	# # # # # \$653g
BAZ C 845 BAZ G \$50	2 47g - -	Feb. 2 63g 15 41g	- -	\$493g
GM C \$50 GM C \$60 TOTAL VOLUME		Dec.	Mar. _ 1449	\$621 ₈
i	C=Call	· P=Put	:	

RD C RD P RD P RD P XRX C	F-150 51 F-160 F-140 18 F-145 F-160 3 \$70	0.70 4.50	125. 91 1 5 10	4,30 1,30 1,70 3,30 5,50 24	21 7		\$653g	
BAZ G BAZ G	845 2 850 — 8	Nov. 479 ept.	Fe 2 15 De	53g 41g	=	lay — :::::::::::::::::::::::::::::::::::	\$493 ₈	
GM C GM C TOTAL V	\$50 2 \$60 3 OLUME IN CO C=0		=	_ _ P=Put	14	_	\$621 ₈	
-	_							11

COMMODITIES AND AGRICULTURE

down again

MELBOURNE — Austra-lian Wool Corporation (AWC) stocks fell further to about

274,000 bales at the end of

August from 315,600 at the

end of July and 852,000 a year

In its August "Monthly Perspective" newsletter, the AWC noted inquiries con-

tinued to be strong, despite

the European wool auctions,

with sales totalling over

Main interest centred on

medium and coarser Merino

Wool exports rose to 702.96m kilos in the 1978-79 season ended June 30, an

increase of 16.9 per cent com-

Japanese purchases of Australian wool in the first month of the current 1979-80 season

rose 79.3 per cent above the year ago level to 40,000 bales. But AWC noted that July does

not always provide a reliable guide to Japanese purchases in subsequent mouths.

Reports from Japan show the overall level of wool textile activity is still relatively sub-

dued despite recent improve-

AWC noted the improve-

ment was due to stock adjust-ment rather than consumer

spending, which remains sug-

Bangladesh

40:000 bales.

wool types.

42 ner cent.

Tungsten pact talks break down

NEGOTIATIONS HERE to conciude an international commodity agreement (ICA) for tungsten have broken down and are unlikely to resume in the near future.

The break-down occurred because of continuing wide differences of opinion between major producers and consumers of this metal, which is widely used in armaments manufacture. An expensive metal, obtained

from wolfremite and scheelite, tungsten is used in making wre, rod and plate for lamps, elec-tronics parts and electrical parts, as well as steel alloys and carbide materials.

The main tungsten producers -China, Bolivia, Australia, Mexico and Thailand—want an agreement containing substantive and binding economic clauses designed to create a reserve stock system. This would be used to maintain the world price of a representative grade of tungsten between agreed maximum and minimum limits. The main consumers—led by the U.S., Britain, West Germany, Japan and Sweden-want ing an informal forum for con-

to go no further than establish----- sultations among consumers and producers. Both sides would meet periodically to discuss general issues concerning the tungsten market such as estimates of supply and demand, forecasts of price movements. trends and other indicators of market activity.

Welsh increase sheen flocks

the expense of cattle, according to a new Welsh Office publication of the expense of cattle, according to a new Welsh Office publication. to a new Weish Office publica-tion, Welsh Agricultural Statistics. It shows that between June 1975 and June 1977, the ___ total number of sheep and lambs in Wales increased by some 6 per cent to 7.1m. By contrast, the number of cattle and calves fell by 5 per cent to 1.4m.

There was also a move out of poultry and pigs over the same period. The poultry flock fell by 4 per cent to 7.4m, while the pig herd was down by 6 per cent to

The new figures also show a move out of arable crops in Between 1973 and 1977 the area of arable land fell by 6.000 hectares, while that of permanent gross increased by 23,000

Silver surges to new peak

BY JOHN EDWARDS, COMMODITIES EDITOR

SILVER CONTINUED its upat a record level with the bullion expected. market spot quotation being Tin prices were also higher raised by 32.35p to 628.65p troy on the trend in silver, and a ounce. The uptrend was main-tained in later dealings with the cash price on the London Metal These more than offset another Exchange closing at over 640p.

The market remains highly distinct reluctance to sell in present conditions so any buying interest meets little resistance.

The continued rise in gold and silver, and the weakness of the pound, were the dominant in-

SILVER CONTINUED its upward surge in London yesterday, by news that copper stocks held writes: Silver prices in all the
encouraged by the new rise in in LME warehouses fell margimajor trading centres in India gold and the fall in the value nally—by 525 connes to a total have soared to all-time highs of sterling. Following the trend of 157,825 tonnes—when a rise in line with the trend in London set in New York, silver opened in stocks had been generally and New York although silver exports from the country con-Tin prices were also higher tinue to be prohibited.

> The rise is clearly speculative anticipating a relaxation of the ban on exports in the near dip in the Penang market over future.

The Indian Government's unexpected increase of 850 silver content, will be permitted tonnes in lead stocks raising in respect of all contracts which were concluded with foreign buyers before last March has lent some credence to rumours As expected, zinc stocks fell that New Delhi is considering fluences in base metal markets by 475 to 51.275 tonnes and resumption of silver exports. It too. Copper prices moved up aluminium by 500 to 13.900 would prefer to take advantage fluences in base metal markets too. Copper prices moved up particularly strongly. Cash wirebars climbed steadily all day by 24 to 6,408 tonnes, while LME closing £26.5 higher at £929 a silver holdings increased by scale smuggling out of the tonne.

Coffee producers get together

total holdings to 27,000 tonnes.

DISILLUSIONED WITH the mote-price agreements between lian Coffee Institute, as well as exporting and consuming countries, the two major coffee producers, Brazil and Colombia, coffee trade, are seeking ways of co-ordinat-ing common action by all producing countries, either within or outside the ICO

This was the overall impression left by the week-long visit of Sr. Arturo Jaramillo, president of the National Coffee-Growers Association of Colom-

Sr. Jaramillo met President American producers' associations International Coffee Organisa- Figueiredo and Sr. Octavio in August, 1978, to stabilise tion (ICO) incapacity to pro- Rainho, president of the Brazi- prices by means of intervention

His mission here was made an alternative more representa-tive of producers' aspirations clear in the joint interview he gave with Sr. Rainho, in which they both criticised ICO and spoke of a common front by producing countries on prices, quotas and market policy.

Of key importance in the pro- along the lines of OPEC. ducing countries' efforts to main- . The opening session of the tain stable prices on the world ICO executive board meeting bia, to Brazil in a warm-up for market is the so-called "Bogota ended in London yesterday the next ICO Council meeting Fund." This consists of a fund morning at the beginning of two in London on September 24. of \$140m set up by eight Latin weeks of talks

Abaca target levels increased

last April governments of major also spun into cordage. trading countries have reinstated them at substantially held here last week, the
higher levels, according to the
Philippines, the main exporter.

informal market mechanism, and a floor band 25-30 per cent suggesting a range of prices higher than the price range in high enough to be remunerative force until April when prices

ROME — After suspending speciality papers such as tea The governments also agreed desh Government has taken indicative price levels for Abaca bags and stencil sheets. It is that single floor and ceiling steps to ensure a minimum price

Japan to reinstate indicative Indicative prices are an prices by adopting a ceiling the three major abaca grades, the Press Trust of India high enough to be remunerative force until April when prices ton cif. European ports, up to farmers and low enough to were temporarily suspended at from \$740 per ton in April, compete with substitute fibres.

Abaca is a tropically-grown inter-governmental group on tween \$684-\$711 per ton, up Abaca is a tropically-grown inter-governmental group on hard fibre used mainly for hard fibres.

on the London and New York futures markets. Independent of the ICO, the fund could form the nucleus of

should the organisation continue to prove unsatisfactory to them. Sr. Jaramillo went so far as to suggest the formation of a cartel of coffee-exporting countries,

sets jute 'floor' price

NEW DELHI — The Bangladesh Government has taken jute directly from growers and to make cash advances against jute stocks until prices improve,

It said 400 jute purchasing

Australian EEC AGRICULTURE wool stocks

Milk surplus could ruin farmers

BY MARGARET VAN HATTEM IN LUXEMBOURG

up its mind—or at least to steer the Commission gently away from the more drastic measures.

The working document makes

natives, but an unstated pre-

ference can be detected for voluntary rather than compul-

sory measures. These voluntary

measures include various pay-

ments to farmers to encourage

Some of these financial incen-

the EEC for some time, with

gests COPA, if farmers could be

once, appear to be a step ahead next year if something is not of their farmer ministers in done quickly about milk. realising that the goose that the goose that lays their golden eggs is at death's door. A confidential working document circulating within COPA, the EEC farmers' organisation, are particularly attached" the refers to as "quantums," warps members that over-pro- organisation has made a study. The paper rules out "qu duction in the milk sector is leading straight to an overhaul

pared with the previous season, the AWC said. system which could hit some of Japan took 11.2 per cent more at 198.75m kilos, while the Soviet Union took 85.57m kilos—up 7.2 per cent on 1977-78. them very hard. It points out that milk now takes up 45 per cent of farm price support funds, and that this is the biggest single factor Italy remained the third largest importer, taking 63.69m kilos, an increase of behind the growing likelehood

of the whole price support

that the community will run out of money in 1981. Unless effective measures are taken now, it warns, there is a no explicit recommendations very hig risk that EEC Govern-concerning the various altervery big risk that EEC Govern-ments may decide either to cut the milk price or to weaken the whole support system, hitting non-dairy sectors at the same

to most for along time, although it did not prevent farm minissing all dice their milk deliveries or The situation has been clear ters last June from raising all prices except milk by 1.5 per cent, and from rejecting the proposed higher milk tax that

might have helped curb ever rising production. notes the COPA paper, creasing milk output. But, sugit will be "politically difficult"

EUROPE'S FARMERS, for good work by raising prices milk they might produce less. The compulsory measures discussed include a continued milk price freeze, milk cuts, a slightly higher milk tax,, income Rather than leave it to the ministers, who may start tamaids, limits on investment aids, pering with "those parts of the Common Agricultural Policy to higher protein feed prices, which COPA and its members

quotas and what it delicately The paper rules out "quotas", that is fixed limits on each inof the various solutions to the problem now before the EEC dividual producer, as impos-Commission. The Commission sible to administer. But it deplans to present major propovotes several pages to "quan-tums", which it defines as a variable price support system. sals for reforming the dairy sector some time next month. COPA evidently hopes to get in with the degree of support linked to production levels. with some proposals of its own before the Commission makes

27

These could be fixed on a Community-wide basis, so that once Community deliveries had reached a certain level, the price would automatically drop. Alternatively, they could be fixed individually, either on the put, or more generally, with a certain price for the first 100,000 the next 100,000 and so on.

A Community wide system says the paper, would be the easiest to run but would hit hardest those farmers most re liant on FEC intervention. A tives have been operating within totally individualised scheme would be the hardest to run little impact on the steadily in- while the more general system would hit some regions much for ministers to continue the paid more for not producing harder than others.

UK dairy profits under fire

BY JOHN CHERRINGTON, AGRICULTURE CORRESPONDENT

margins over the next few years. Prices are unlikely to be raised, there is no further scope for "green pound" devaluations and cost inflation will reduce revenues of even the most profitable businesses before too long.

How to overcome these con-Bank. Giving a resume of the scheme in London yesterday

ing a severe attack on their chief agricultural adviser stated that herd owners should concentrate on improving the productivity of their herds by maximising herd numbers. maximising herd numbers. The warnings are vields, and the utilisation of founded, but the advice given which basically means encourage which basically means encourage.

Dr. Robert Bruce, general

DAIRY FARMERS will be far- Professor Peter Wilson, BOCM's the present situation which could lead to a farm's profit falling from \$12,000 to less than £2,000 over the next two years.

should have some capacity for ing production of more milk increasing efficiency. could lead to even more problems in the future. Britain is no longer an island, the Comditions will be the theme of a series of conferences during the autumn sponsored jointly by BOCM Silcock and the Midland milk surplus which looked like of this surplus by quota, price continuing. He also stressed reduction and so on will inten-the financial consequences of sify the squeeze on margins.

1494.5, Feb. 155.6, April 1516.9, June 1526.4, Aug. 1540.1, \$25yabeans—Sept. 720-720.1, (716). Nov. 724-722 (718), Jan. 737-739, March 754-763.2, May 764-763.2, July 771.2, Aug. 773-772.1, Sept. 761-762. ||Soyabean Meal—Sept. 190.30 (188.60), Oct. 189.5-190.30 (188.60), Oct. 189.5-190.30 (188.60), Dec. 194.00-194.40, Jan. 195.30, March 200.00-199.50, May 203.00, July 205.50-206.50, Aug. 207.00-208.00, Sept. 207.00-207.50, Oct. 205.00-208.00

Soyabean Oil—Sept: 3.45-30.50 (30.42), Oct. 28.85.28.90 (28.55), Dec. 27.85-27.90, Jan. 27.85-27.80, March 27.55-27.60, May 27.55, July 27.50, Aug. 27.30, Sept. 27.20, Oct. 27.05-27.15.

BRITISH COMMODITY MARKETS

BASE METALS

COPPER—Moved shead on the London Metal Exchange, mainly reflecting the weakness of sterling, but also elided by the unexpected full in werehouse stocks. After opening at CSGS forward metal gained ground all day to close the late kerb at £926. Turnover 15,950 toppes.

	COPPER			Unofficial	
	Matura b. a.um	2	- 2	- 3	2
	Wirebara Cash			929-70	+28.5
	months Settlem't	920		924-5	+262
	Cathodes	889-86	-4		#35
•	months Settlem't	RAC.	_4		+ 29
-	U.S. Emt.			- 90	-5.25
	Amaigar	nated i	vietai Poto	Trading	re-
	bars trade	d at £91	B. 19	, three mo 15, 14, 15	nths
	17. 16. 1	16. 14. 1	13. 1	1, 12 13, 97, 900,	, 14.
•	months S	897. Ka	ить: 1	Wirebars. 18, 15, 14	thres
	Afternoon	: Wireh	B/18.	three m 23, 23:5,	onths
	Cathodas.	cash £90	18. 07	, three mo	in this
,	£906. Ke £925, ZA	170: VVAN 25, 26, 2	7, 26.	three mo	in als
	TIN-Fi	mer ·owi	ng to	the week	:ness

TIN | a.m. | + or | p.m. | + or | Orficial | -

Morning: Standard, cash £6,980, 65, 70, three months £5,950, 80, 70, 75, 60, 65, Karb: Standard, three months £6,965, Afternoon: Standard, cash £6,965, three months £6,950, 60, 70, 80, 70, 65, 60, 50.

rise in stocks. After trading around 1523 on the early pre-market forward metal fell eway on the stocks news to touch the day's low of £516. However, abort covering prompted a minor raily which left the price at £520.5 on the late kerb. Turnover 4,300 tonnes. Morning: Cash £513, three months £721, 20, 18, 19, 18, 17, 16, 17, 18. Kerb: Three months £519. Afternoon:

INSURANCE BASE RATES † Vanbrugh Guaranteed 12.12% 124%

t Address shown under Insurance and Property Bond Table

Three month Copper 922-930. LG. Index Limited 01-351 3466. 29 Lamont Road, London SW10 0HS. 1. Tar-free trading on commodity futures.
2. The commodity futures market for the small investor.

CORAL INDEX: Close 463-468

COMPANY NOTICES

READY MIXED CONCRETE LIMITED 71% Bonds 1987 FF 80,000,000 Notice is hereby given to Bondholders of the above loan

that the amount redeemable on October 25, 1979, i.e. FF 4,000,000 was bought in the market.

Amount outstanding: FF 57,600,000.—

Trustee: The Law Debenture Corporation Limited

Principal Paying Agent: Kredietbank S.A. Luxembourgeoise

Luxembourg, September 18, 1979.

M.I.M. HOLDINGS LIMITED 150 Ann Street, Brishine. Questiland 4000, Australia

Notice is hereby given that the register of Members of the Commany will be closed from the Park 12th October 18th 1979, both detes includes the purpose of preserving dividend lasts and bonus share lasts excellentered. Issue contineers.
Transfers will be received up to
5 m.m. Thersday October 11th
1978 at the above address.
By Grear of the Soord
R. B. Byers
Secretary

NOTICE IS HERBY GIVEN that the TRANSFER BOOKS and REGISTER WITH MEMBERS. of the above Computer 1979 by COCKET from the 26 October 1979 by Cocket 3 November 1979 (both dates rder of the Board of Directors.

NOTICE OF MEETING. The Annual General Meeting of members of The Cremation Society of Great Britain will be seld at Woodcut House, Ashford Read (A2020), Hellingbourne, Meidstone, Kent. ME17 1XH, on Thursday, 11th October, 1979, at 12 noon. Annual Report, free, on application to registered office of the Society.

DAVIES & METCALFE LTD. NOTICE IS HEREBY GIVEN that the TRANSFER BOOKS of the Company will be Company from 24th September. 1979, both dates for the Company of the Co By Order of the Board. Injector Works, Ramiley, Cheshire,

CHAIRMEN COMPANY REPORTS

BY T.V. Communicate your company report by using a T.V. presentation of the year. You can speak to all your shareholders and staff (worldwide). TELLECOM TELEVISION 01-403 2696

Cash...... 514.5.5 -9.75 515.4 -6
5 months 518-9 -11
5 ment 515 -10
U.S. Spot 58 Mnth: 658 High Grade 2 Cash 6970-5 75 6960-575 +475 6960-57 5 Thombia 6960-80 5970-5 5 Thombia 6960-80 5970-5 5 Thombia 6960-80 5970-5 5 Thombia 6960-80 5970-5 5 Thombia 6970-5 Th

Cash...... 554.5 +4.75 532.5.4 +5.25 5 months 345.4 +4.5 735.7 -7 months 345.5 +4.5 735.7 Morning: Three months £344, 43, 44, 42, 43, 44. Kerb: Cash £334. Afternoon: Three months £344, 43, 44. Kerb: Three months £344, 45, 44.5. ALL/MINTUM—Higher in quiet trading with the market dominated by currency considerations. Forward metal rose from £734 to touch £741 before closing the late kerb at £738, Turnover 3,400 mones.

Morning: Three months £741, 40, 38, 37, 38, 35, 37. Afternoon: Three months £738, 35. Kerb: Three months

2650-40 +60 2645-55 +88 2704-5 +48.5 2715-30 +62.6 Morning: Three months £2,720, 15, 05. Karb: Three months £2,705, Afternoon: Three months £2,705, 10, 30, 20. Karb: Three months £2,725,

Silver was fixed 32.15p an ounce higher for spot delivery in the London buillon market yearerday at 522.45. U.S. cant equivalents of the fixing levels were: apor 1.340c, up 40.0c; threamonth 1.370.0c, up 40.2c; six-month 1.385.1c, up 43.9c; and 12-month 1.409.1c, up 43.9c; and 12-month 1.409.1c, up 39.8c. The metal opened at 616-6254 (1.330-1.350c) and closed at 6374-642-p (1.305-1.380c).

per troy oz. Spot 528.55p +32.3 540.20p +45.7 3 months 546.10p +33.3 557.00p +44.2 5 months 555.80p +35.1 12months 572.60p +54.7

1.MS Turnover 320 (238) lots of 10,000 azs. Morning: Three manths 644, 44,5, 45, 45, 46, 650, 49, 47, 48, 45, 5, 5, 43, 42. Kerb: Three months 643, 42. Altamoen: Three months 653, 54, 58, 54, 54, 54, 54, 55, 57, 57, 57, 57, 58, 60, 61, 62, 63, 65, 65.

IMPORTED—Wheat: CWRS No 1
13-2 per cent anquoted. U.S. Dark
Northern Spring No 2 14 per cent
Sept. 109.15, arc-Gult ports, Sept.
101.50, Oct. 102.75, Nov. 13.15 exLakes, transhipment east costs. U.S.
Hard Winter 13-2 per cent Oct. 103.15,
Nov. 104.30 transhipment east coest.
EEC unquoted.
Maites: U.S./French Sept. 110.50,
Maites: U.S./French Sept. 110.50,
asst coest. S. African White unquoted. S. African White unquoted. S. African White ungubted. S. African Yallow Sapt./Oct. 82.50 nominal.

Barley: English Feed fob Oct. 83.0.
Oct./Dec. 95.00. Jan./March 101/
101.75 as to quantity. Sorghum, asst coast U.S./Argentine unquoted.
Outs: Scandinavian feed unquoted.
HGCA—Locational ex-larm spot prices. Other milling wheat: Eastern 82.20. N. East 92.00. Feed barley: Eastern 89.30, E. Midlands 88.80, N.

LEAD Official — Unoffici'l — Bast 86.70. Scotland 83.70. The UK Dec. 218.0, 38.0; March/May/July/Oct./

Monstary Coefficient for the week Dec. and March 228.0, 38.0. NEW Monday September 14 is ZEALAND CROSSREDS—Close (in Yesterd'ys +or Yesterdys +or M nth: close - close -

Sept. 93.70 +0.25 90.85 Nov. 96.45 +0.30 93.45 Jan 100.40 +0.15 97.40 Mar. 103.50 +0.25 100.40 May 106.60 +0.25 105.40 +0.35 Mzy... 105.60 - + 0.25 105.40 + 0.15 Business cone—Wheat: Sept. 93.60-93.40. Nov. 96.45-96.15, Jan. 100.40-100.15, March 103.50-103.30, May 106.60-105.40. Sales 116 lots of 100 tonnes. Barley: Sept. 90.90-90.55, Nov. 93.45-93.25, Jan. 97.40-97.15, Merch 100.40-100.30, May 103.40-103.30. Sales 162 lots of 100 tonnes.

COCOA

Futures opened unchanged despite a weaker close in New York on Friday. The decline of Sterling accounting for the markets firmness. Producers remained withdrawn and a dull physical market was reacted in a low volume on the terminal market. As Sterling recovered later in the day the market moved lower but the long liquidation was not sustained and after a decline of £30 from less night's levels values recovered to close in the middle of the day's range, reported Gill and Duffus. Yesterd'ysi + or : Business Close - Done

Robusts opened £15-£20 higher prompted by burther strength in the "C" Contract market and early currency weekness; raported Drest Burnham Lambert. For most of the day value extracted in a nerrow range but in fairly good volume with business well matched by trede on both sides of a steady market. Prices finished with gains of up to £18 on the day.

Yesterdays + or Business Done September 1877-1878 + 19.0 1880-1879 November 1919-1920 + 18.5 1925-1977 January 1929-1930 + 16.0 1932-1938 March 1884-1885 + 18.0 1890-1875 May 1869-1870 + 14.0 1875-1855 July 1856-1858 + 16.0 Sept 1845-1856 + 16.0

Sales: 8,113 (7,123) lots of 5 mnnes. ICS indicator prices for September 14 (cents per pound): Other Mild Arabicas 206.83 (206.17). Robustas ICA 1976 190.00 (189.50). ICA 1968 190.25 (189.75). Unwashed Arabicas 210.00 (209.00). Comp. deily ICA 1968 204.89 (204.11).

The London physical market opened ateodier, and was fair throughout the day closing on an easier note. Lewis and Peat reported a Melaysian godown price of 280 (278) cants a kg (buyer, October).

Sales: 806 (458) at 15 tonnes, 12 at 5 tonnes. Physical closing prices (buyer) were: Spot 61.25p (61.00p). Oct. 64.00p (same), Nov. 64.75p (same). WOOL FUTURES LONDON GREASY—Close (in order awar, seller only), Oct. 218.0, 33.0;

ZEALAND CROSSBREDS—Close (in order buyer, seller only). Opt. 178.0, 83.0; Dec. 180.0. 85.0; March 181.0; 91.0; May/July/Oct./Dec. and March 181.0, 93.0.

BRADFORD WOOL—Prices are moving higher as Starling fells, and stocks are adequate in Bradford to enable topmakers to continue quoting if business does revive, traders said.

Price increases so far have affected coarser crossbreds and more than merinos.

Reuter
SYDNEY GREASY—Close (in order buyer, seller, business, sales). Microre buyer, seller, business, seles). Micron confract: Oct. 413.0, 414.0, 413.5-413.0, 12: Dec. 423.0, 424.0, 424.0-423.0, 38;

SOYABEAN MEAL

Yest'rd'y +or Business Close — Done £ Sales: 82 (264) lots of 100 tonnes.

SUGAR ... SUGAK

LONDON DAILY PRICE (raw sugar):
£120.00 (£117.00) a tonns cif for Sept.
Oct.-Nov. shipments. White sugar
daily price was £128.00 (£125.00).
Currency factors lifted opening prices
some50-75 points above pra-weetend
lavels. Later New York quotations
moved sharply upwards and prices
gained up to 200 points following
strong arbitrags buying which lifted all
the 1980 sectounts to naw life-of contract highs. However some scattered
profit taking pared the gains somewhat
at the class, reported C. Cramikow.

Yester-day's Close

Aug. 138.55-39.05 188.56-38.56 138.90-57.00 Oct. 148.25-45.86.148.50-40.78 148.75-40.00 Sales: 5.608 (6.573) lots of 5 tonnes. Tate and Lyle ex-refinery price to organulated bests white sugar was £297.55 (same) a tonne for home trade and £188.50 (£194.50) for export. International Sugar Agreement (U.S. cents per pound fob and stowed Caribbean port). Prices for Sept. 14. Daily price 10.13 (9.89); 15-day average 9.66 (9.59). WHITE SUGAR—Close (in order buyer, seller, business, sales). Nov. 126.75, 127.00, 127.00-125.50, 124; Feb. 132.50, 132.75, 132.75-128.75, 77; April 135.00, 138.55, 138.25-136.20, 10; July 139.00, -141.00, nil, nil; Sept. 141.50, nil, nil; Feb. 147.00, 152.00, nil, nil, Seles: 211.

MEAT/VEGETABLES MEAT /VEGETABLES

MEAT COMMISSION—Average fatstock prices at representative markets
on Saptember 15. GB—Cettle 78.78p
per kg.l.w. (-1.98). UK.—Sheep
134.8p per kg.est.d.c.w. (-2.2).
GB—Pigs 65.8p per kg.l.w. (+1.1).
England and Wales: Cattle numbers
down 8.4 per cent. average price
78.57p (-2.40). Sheep down 11.0 per
cent. everage 135.9p (-2.2). Fig up
2.1 per cent. average 65.7p (+1.2).
Scotland: Cattle down 16.5 per cent.
average 77.55p (-0.28). Sheep down
8.6 per cent. average 128.2p (-0.9).
Pig down 11.7 per cent, average
84.5p (+0.9).
SMITHFIELD—Pence per pound. Beet:
Scottlish killed sides 60.0 to 65.0; Etre
hindquarters 68.0 to 73.0. forequarters
42.0 to 44.0. Veat English fate 80.0 to
78.0: Dutch hinds and ends 94.0 to
78.0: Dutch hinds and ends 94.0 to
78.0: Dutch hinds and ends 94.0 to
78.0: Lamb: English small 54.0 to 58.0,
medium 52.0 to 58.0, heavy 48.0 to 52.0;
Scottlish medium 52.0 to 58.0, heavy
48.0 to 52.0. imported forzen—NZ PL
48.5 to 45.5. PM 47.0 to 48.0. Pork:
English, under 100tbs 38.0 to 45.0,
100-120tbs 37.0 to 44.0, 120-180tbs
36.5 to 43.0. Grouse: Young, best
(asch) 280.0 to 380.0.

Sept. W Sept.-Uct. Y Oct. Y Oct. vs. Nov. z Indicator. § Buyer.

COVENT GARDEN—Prices in sterling per package except where otherwise steted. Imported produce: 0 ranges—South African: Valencias 4.00-6.20. Navels/Promes 3.80-4.30; Brazilian: Pares 2.50-2.90, Valencia Lates 64/144 3.20-4.40. Lamons—Italian: 100/150's 6.00-6.50; Spanish: Trays 2.40-3.20; South African: 9.00-11.00; Brazilian: Half-boxes 4.00-4.50; Turkish 100/170 6.20. Grapefruls—Dominican: 23/63s 9.00-10.50; Honduras: 40's 8.50; Jamaican 9.00-10.00, Apples—Franch: Golden Delicious, new crop, boxes 40-1b 150/175 3.80-4.00; 20-1b 2.00-2.30; jumble pack 31-1b 2.70; Taemanian: Granny Smith 3.00; Spanish; Granny Smith 40-1b 6.30-6.50. Pears—Spanish: Williams per pound 0.14; Franch: Williams Per pound 0.16; Franch: Geges 0.12. Grapes—Cyprus: Sultana 0.25; Thompson 0.30, Roraki 0.20; Italian: Stanley par pound 0.10; Franch: Gages 0.12. Grapes—Cyprus: Sultana 0.25; Thompson 0.30, Roraki 0.20; Italian: Regina 10-1b 2.00-2.20. Spanish: Stanley par buth African: 4.30-4.50. Mactarines—Italian: C/B/A's 5.50-6.50; French: Alphonas per pound 0.16; Bananas—Jamaican: Per 28-1b 4.20. Avocades—South African: 4.30-4.50. Malons—Spanish: Yellow honeydow 10 kilos 5/14s 2.20-3.30, grean 2.50-2.80. Onions — Spanish: 3.00-3.50; Dutch: 2.40. Tomatoss—Jarsey: Per tray 1.00: Guernasy: 1.20. Cabbages — Dutch: White, net 2.50. Peaches—Hellian: 11, trays 0's 3.00, B's 3.00, A's 3.80. Bragish produce: Potzbraes—Per pound Bramiey 0.08-0.08, Millers 0.05, Workester Pearmain 0.05-0.08, Millers 0.05, Oct. 0.06-0.06, Dearby 0.04-0.06, Cox's Orange Pippin 0.10-0.13. Pearse—Per pound 0.06-0.06, Dearby 0.04-0.06, Cox's Orange Pippin 0.10-0.13. Pearse—Per pound 0.06-0.06, Dearby 0.04-0.06, Cox's Orange Pippin 0.10-0.13. Pearse—Per pound 0.06-0.06, Dearby 0.04-0.06, Cox's Orange Pippin 0.10-0.13. Pearse—Per pound 0.06-0.06, Dearby 0.06-0.06, Dearby 0.06-0.07, W

Grains Barley FuturesE93.45 +0.25E91.05

* Nominal. † Newcrop. ‡ Unquoted. 2 Sept. w Sept.-Oct. x Oct. y Oct-Nov. 3 Nov. z Indicator. § Buyer.

AMERICAN MARKETS

tk, Sept. 17. 1432.1, Feb. 1442.0, April 1452.1, June nate highs in 1452.4, Aug. 1472.9, Oct. 1483.6, Dec. of up. Septem-o limit trading, on (desperate) inflationery recious metals kets such as rabeans, where iort despite the news. Copper General Motors ment. Heavy her cotton and

Oct. 1371.0 (1315.0), Nov. 1380.5, Dec. 1390.0, Jan. 1395.5, March 1405.5, May 1416.5, July 1426.3, Sept. 1435.9, Dec. 1449.4, Jan. 1454.8, March 1484.4, May 1474.0, July 1483.6, Handy and Harman buillion spot 1390.0 (1315.0), Tin—897.00-720.00 asked (700.00-725.00).

Sharply lower to limit down on market weekness. Coffse was mixed in a featureless trade, Heinold raported.

Potatoes (round whites)—Nov. 61.0 (61.5). March 69.7 (72.2). April 87.0. (61.5). March 89.20. May 40.20. July 1425.3, Sept. 1435.9, Dec. 1390.0, Jan. 1395.5, March 1406.5, March 1406.5

7,068. 384.40, 385.40, 386.40, 387.10,

DOW JONES

Spot ... 405.73 407.21 401.49 380.65 Ftur's 415.91 413.30 411.75 378.66

(Average 1924-25-26-100)

Sept. 17 Sept. 14 M'nth ago'Year ago

1620.7 1611.0 1572.4 1484.2

Sep. 14Sept, 15M'nth ago Year ago 291.46 290.28 287.30 253.63 dase: July 1, 1952-100)

Sept. 14 Sept. 15 M'nth ago Year ago 1119.0 1118.1 1071.6 939.0 (Dacember 31, 1931 = 100)

(Base: September 18, 1931-100)

considerably higher. After a heattent start, bright and good medium East African teas come in for keen competi-tion and put on several pence. Lesser mediums moved ip to 3p lower, but clean plain teas stayed fully firm. Quotations for the week: Quality 140p per kilo (130p); Medium 103p (58p); Plain 62p (62p).

GRIMSBY FISH—Supply fair and demand good. Prices at ship's side (unprocessed) per stone: Shelf cod 4.80-f8.00, codfings £2.90-f2.80, large heddock £4.70-f5.80, medium £3.00-f4.80, amali £1.20-f2.40. Large plaice £5.00-f5.80, medium £4.00-f6.00, best small £3.80-f6.50, (medium £4.00-f6.00, best small £3.80-f6.50, (medium £4.00-f6.00, best small £3.80-f6.50, (medium £4.00-f6.00, Seithe £7.20-f2.80.

UN Food and Agriculture agreed with EEC countries and Organisation (FAO). Japan to reinstate indicative

price levels would again come of 115 takes (£3.33) per maund into effect after Abaca trade (82 Ibs) and has launched a returned to normal in the lbn Taka programme to buy returned to normal in the

Using a composite price of the new indicative price ceiling reported. ranges between \$925-\$962 per

RICE	CHA	NGI	ES	NEW YOR
tonnes u	inless oth	erwise	stated.	preticus metals is under
	Sept. 17 1979	+_or	Month ago	gold and silver were limit ber silver, not subject to was up \$7.00 per cunce of short-covering. The psychology in the pre- moved into other mark
inium o Mkt (es)	\$1568/1580	 8.5	£710/50 \$1649/60	copper, grains and soyal nobody wanted to be sho sbeence of any bullish no benefitted also from the G labour contract sattlem
sh w'bar	£929.5	+ 28.5	£895.5	trade buying led to highe
		+25.75	£889.25	sugar prices. The lives:
Cathode,		+35	£872.5	was sharply lower to lin
iths	£997.3	1 22	2.0 (5.0 !eoòà 005	reports of cash marke Coffee was mixed in a feat
troy oz	0303.020 0513 R	1±6.70	'0250.02J	Heinold reported.
nths	£516.75	_7.75	£526.5	Potatoes (round whites
Bl			£2,854	(61.5), March 69.7 (72.2)
mkt(cif (lb			250/288c	May 96.0. Sales 935.
• • •		•	i	1Silver-Sept. 1423.0-142
n'mtr'y oz	£172.50	<u></u>	£155.5	Oct. 1371.0 (1311.0), Nov.
e mkt œll'ver	£199,60	+2.5	£176.10	1390.0, Jan. 1395.5, March
(e 'V87	\$500,310	ļ <u></u>	5275/295	1416.5, July 1426.3, Sept.
r troy oz	628.65p	H 82.85	415.65p	1449.4, Jan. 1454.8, March
nonths	645.18p	₩33.80	425.15p	1474.0, July 1483.6. Handy

Coconut (Phil) \$940.00 -15 \$1,015 Seeds Copra Philip......\$625y Soyabean(U.S.)|\$301.15z |--3.7 |\$312.5

EUROPEAN MARKETS

ROTTERDAM, September 17.

Witheat—U.S. No. Two Dark Hard Winter wheat 13.5 per cent. Nov. S216.50, Oct./sov. S313. Doc. \$317.

BUS. Hard Winter Wheat ordinary unquoted. U.S. No. Two Red Winter wheat Sept. \$132. Oct. \$133.

Nov. \$197. Dec. \$202. U.S. No. Two Red Winter wheat Sept. \$132. Oct. \$133.

Nov. \$197. Dec. \$202. U.S. No. Two Northern Spring wheat 14 per cent. Sept./Oct. \$200. Nov. \$202. Dec. \$211.

Jan. \$216.50. Feb. \$219.50. March \$211.

Sept./Oct. \$200. Nov. \$202. Dec. \$211.

Malze-Sept. \$136 traded, April \$137.

Sept. \$137. Oct. \$137.50. Nov. \$138.50.

Dec. \$143. Jan./March \$148. April/Juns \$149 sellers.

Soyabeans—U.S. Two Yellow Gulf-ports Sept. \$301. Oct. \$21.25. Nov. \$191.50. Dec. \$297.75, Jan. \$302.50.

Feb. \$308.50. March \$309.50, April \$130. Nev. 1340-1374. Sales at \$17.

Sales \$131.50. Mey \$313.75, June \$15.50, Sept. \$20. Into \$100. 120. 120. \$21.25. Oct. \$120. \$21.25. Nov. \$131.50. Nev. \$133.75. June \$15.50, Sept. \$20. Se

INDICES

FINANCIAL TIMES MOODY'S

Carrots—Per beg 0.50-0.80. Restroot— Per beg 0.70. Capsictans—Per pound 0.30. Swedes/Turnips—Per 25/28-ib 0.60. Stick Bass—Per pound 0.10-0.12. Sprouts—Per pound 0.10-0.12. Cabbages—Per bag 0.90-1.00. Whits 1.50. Cobnuts—Per pound 0.35. COTTON

LIVERPOOL—Cetton shipment sales amounted to 158 tonnes. Modest operations continued, with most users slowly anticipating purchases of American-type varieties. TEA AUCTION

LONDON TEA AUCTION — 49,735 cheats were offered at yesterday's suction. New season Assam CTC's sold very well with the best sorts

28

Government securities weaken afresh as sterling falls Equities again subdued by engineering troubles

Dealings tions Dealings Day to end 1.7 down at 456.0, after Aug. 28 Sep. 6 Sep. 7 Sep. 17 having shown a loss of 2.3 at Aug. 28 Sep. 6 Sep. 7 Sep. 17
Sep. 10 Sep. 20 Sep. 21 Oct. 1
Sep. 24 Oct. 4 Oct. 5 Oct. 15
Oct. 8 Oct. 18 Oct. 19 Oct. 29

"New time" dealings may take place from 9.30 am two business days
issue were resinverted Expenses of the seption.

Government stocks viewed vesterday's renewed fall in sterling with some apprehension and weakened accordingly. Fresh selling from holders nervous present crisis level for some time found the market unwilling with buyers going to ground and dealers protectively lowering

In sensitive trading conditions, attempts to recover were generally short-lived and longerdated stocks closed at the session's worst with falls ranging to 1. At the shorter end of the market, rallying efforts were more spirited but here, too, they

Meanwhile, equities began the factor was 0.9175 (0.9092). cond leg of the trading The torpidity of the equity second leg of the trading Account in subdued fashion with attention still focused on the engineering dispute, an influence which completely annulled the improvement in export prospects following the recent slide in sterling. Business contracted again and this in itself added to the market's current bout of uncertainty.

rectainty.

The usual crop of weekend Home banks reacted from Press tips failed to revive recent firmness, small selling enthusiasm although Decca beneather and lack of fresh support leaving fited from speculative interest closing falls ranging to 6. fited from speculative interest of bid possibilities. Just before at 422p, while Lloyds eased 5 to the close, leading shares began 310p and Midland, 372p, and to harden on book-squaring NatWest, 340p, cheapened 3 and operations in front of the August 2 respectively. Foreign issues,

nounced this afternoon, and the First Declara- Last Account FT 30-share index rallied slightly

matured Electric 3 per cent 1979 issue were re-invested. Exchequer 3 per cent 1981 was a recipient of these funds and rose to 90½, along with Treasury 3½ per cent 1979-81, which gained 1 to 921, and Treasury 3 per cent because of the currency situation 1982, up 1 at 871. Corporation and of suggestions that interest stocks, however, followed the rates may well remain at the trend set by the main funds and closed a point down in places. Latest developments in the Zimbabwe Rhodesia talks caused holders of Southern Rhodeslan bonds to become restless and light selling brought prices down; the 21 per cent 1965-70 fell 5 points to £85, while other

iosses ranged to 4 points.
Institutional demand coupled with the effects of a lower pound produced higher rates for investment currency, but after rising proved to be abortive and in to 33 7-9ths per cent the pre-trade after the official close mium reacted to close only ? prices had returned to around higher on balance at 32? per the day's lowest. Yesterday's SE conversion

market was reflected among Traded options where only 150 contracts were completed. This compares with 176 on Friday. and with last week's daily average of 228. Cons, Gold were relatively active with 57 deals.

Banks lower

LONDON TRADED OPTIONS

Yol.

whetted by newspaper comments Barclays ended that much lower

Vol.

18 5

1191p

246p

353p 299p 101p

338p

however, made good progress helped by the decline of sterling. Compagnie Bancaire, £50½, and Algemene, £79, rose around 4½ points and Deutsche advanced 2½ points to £721 Handard points to £724. Hambros lost 4 to 330p in dull merchant banks where Antony Glbbs, ahead of tomorrow's interim results, softened a penny to 49p. Hill Samuel gave up 2 to 101p and the Warrants relinquished 5 to

Insurances plotted an irregular course in thin trading. C. T. Bowring gained 3 to 129p but Willis Faber receded 2 to 223p; the latter's interim results are due today. London and Man-chester declined 4 to 138p. Breweries and kindred issues

began the second half of the Account quietly with most counters tending to lower levels due to lack of attention. Irish Distillers provided an isolated firm feature, ending 3 up at 90p on currency influences. Quiet conditions persisted in

the Building sector. Among the few noteworthy movements, Crouch Group moved up 5 to 88p in response to favourable Press mention, but the warning about second-half profits left Federated Land 2 cheaper at 76p. Profit-taking after the recent good rise on the bid approach from Harrisons and Crossield prompted a reaction of 3 to 240p in Parker Timber. Leyland Paint eased 2 to 58p awaiting Thursday's interim statement, while lower half-yearly profits left JB Holdings a shade easier at 58p.

Among Chemicals, ICI drifted off a few pence to 352p while news of two Australian acquisitions failed to help Fisons, 3 cheaper at 247p.

Cope Sportswear firm

Leading Stores drifted lower on lack of support. A firm market of late on hopes that Lonrbo may make an offer for the outstanding shares, House of Fraser cheapened 2 to 154p, while Gussies "A" closed 6 lower at 396p. Ahead of tomorrow's interim figures, UDS softened a penny to 91p. Elsewhere, buyers came for Cope Sportswear and the close was 4 higher at 42p, while MFI hardened 2 to 170p in response to Press comment. For a similar reason, Home Charm were supported initially up to a 1979 high market of late following the of 139p before profit-taking ensued to leave an unchanged close of 134p.

Shoes closed higher in places; Lambert Howarth attracted sup-port and closed 5 up at 54p, while revived bid hopes helped Stylo put on a similar amount to 213p. Ward White hardened a penny to 93p; the interim results are due on Friday.

Weekend Press comment sug-gesting a possible bid prompted renewed demand for Decca issues, the ordinary rising 55 to 330p and the "A" 33 to 293p. Other bright spots in the Elec-trical sector included Automated Security which responded to favourable Press mention with a rise of 11 to 192p and Telephone Rentals, a few pence dearer at 212p for a similar reason. On the other hand, Farnell encountered fresh profit-taking and gave up 11 more to 255p, while AB Electronic lost 6 to 198p and MK Electric 4 to 238p. Among the leaders, Thern remained overshadowed by the disappointing increase in profits for the first four months of the current year and reacted further to 423p before settling at 428p, down 7 on balance. EMI, however, firmed 3 to 91p on bid hopes.

Engineering leaders were inclined easier in subdued trading. John Brown eased 2 to 75p and falls of a like amount were marked against GKN, 266p, Hawker, 178p, and Tubes, 300p. Secondary issues followed a similar trend; Henry Sykes were lowered 5 to 60p on the sharp fall in the half-yearly profits, while scattered offerings ahead of Thursday's interim statement left Stone-Platt 4 cheaper at 72p. The rather gloomy statement on the trading outlook which accompanied the half-yearly figures prompted dullness in Ransomes Sims, down 5 at 138p. In con-trast Simon Engineering, 260p, up 3, and Laird Group, a penny dearer at 82p, responded to encouraging trading statements. Sporadic selling left Capper-NeIII 4 lower at 550 and Pegler-Hattersley a similar amount down at 140p. Molins eased 3 to 1250; the half-yearly results are

Quiet conditions prevailed in Foods and the leaders ended little changed on last, Friday's closing levels. Rowntree Mackintosh gave up a few pence to 188p shead of tomorrow's midterm statement, while Associated Dairies slipped 5 at 255p. Press comment prompted early interest in Sainshury which reached 310p before easing to close at 307p for a net loss of a penny. Although the reduced interim profits were deemed disappointing, United Biscuits held up and market of late following the interim results, rallied 4 to 48p. Bernard Matthews gave up 3 at 317p awaiting today's half-timer, and Associated Fisheries fell 4

lacklustre Hotels. Among Ladbroke, at 181p. gave up 4 of Friday's gain of 7 which stemmed from speculation about a buyer for the company's casino.

De La Rue better Interest in the miscellaneous Industrial leaders was at a low

ebb and prices generally drifted lower on lack of support. Boots gave up 5 to 189p and Turner and Newall relinquished 2 to 127p. Comment on Pilkington's £120m European acquisitions left the shares 3 down at 310p. Elsewhere, publicity given to a broker's circular helped De La Rue put on 10 to 535p, while Low and Bonar improved 3 to 178p in response to the interim results. J. F. Nash Securities added 5 to 80p as did Wade Potteries, to 61p, while Christies International appreciated 4 to 140p. ICL came on offer at 480p, down 16, while Photo-Me lost 10 to 320p and Valor dipped 5 to 72p. Still reflecting last week's disappointing interim results, Booker McConnell lost 4 more to

Black and Edgington rose 2 to 70p following the interim results. Elsewhere in Leisure issues, speculative attention was directed toward Howard and

directed toward Howard and Wyndham, 3 up at 23p.

The current engineering troubles together with uncertainties over BL resulted in a continuing easier bias among Motor Components. Dowly shed 5 at 307p. while Auctomotive Products, 84p, and Armstrong Equipment, 57p, eased 2 apiece. Jonas Woodhead, on the other hand firmed a few pence to 104p after firmed a few pence to 104p after favourable Press comment. Else-where, Rolls-Royce at 70p, gave up 1½ ahead of today's interim statement, while ERF dipped 3

Quietly dull conditions pre vailed in leading Properties with Land Securities softening a penny to 299p with the 61 per cent Convertible 6 points down at £192. Elsewhere, Percy Bilton gained 3 to 236p ahead of the interim results due on October 1, while Fairview Estates lost 5 more to 232p and County and District declined 4 to 200p.

BP improve

Week-end Press comment sug-gesting that the Government selloff may be smaller than originally expected caused firmness in British Petroleum which closed 10 dearer at 1190p. Shell hardened a few pence in sympathy, but secondary issues succumbed to profit-taking, particularly Oil Exploration which gave up 10 to 388 awaiting the interim results due tomorrow. Siebens (UK) reacted 6 to 272p and Burmah 3 to 163p, while Tricentro gave up 2 to 218p.

Activity in the Textile sector remained at a low ebb and the price trend was narrowly easier. Speculative favourite Sirdar fell advanced 5 to 59p foll. 3 to 112p, while Press comment doubled interim dividing failed to help Montfort which almost trebled profits.

PING (1)

inio EXTILIS (2)

closed a penny off at 77p.

Exts met support among
Tobaccos and the Deferred added 3 to 288p, but Imperial eased a shade to 91p.

Western Mining good

Already firm in the wake of the National Mutual Life bid for Broken Hill South and a glut of extremely large share placemarkets received a further shot in the arm following the unex-pected victory by the Liberals in the South Australia State elections.

Stocks with interests in the state came in for strong support, mainly from arbitrage operators Western Mining, whose Roxby Downs copper/uranium/gold project is situated in South Australia, surged ahead with the shares finally 7 better on balance at 200p, after a 1979 high of

205p.
Among the more speculative issues, Ollmin were 16 up at 68p, after a high of 70p following news of the link-up with the Bond corporation. Swan Resources were 8 firmer at 29p, and Eagle Corporation, 51 to the

Elsewhere in Agetralians, the coal producer Thiess Holdings rose 25 to 290p and the iron-ore miner Robe River put on 11 to

66p. BH South were a lone weak spot, however, as profit-taking left the shares 10 cheaper at South African Golds extended Friday's gains as the bullion price rose a further \$8.75 to a record closing level of \$353.625

an ounce, after an all-time peak of \$354.25, in front of today's U.S. Treasury gold auction.

Trading in the shares was only moderate, however. Prices were marked up at the outset reflecting the latest surge in the bullion

price but thereafter tended to hold steady. Favourable weekend Press mention aided Marlevale, 5 up at 121p, and Leslie, 3 better at a 1979 high of 971p. The Gold Mines index rose 2.7 to 207.7—its best level since early June, while the ex-premium index, 4.2 up at 190.6, reached its highest since

September 10 1975. South African Financials were broadly firmer in line with Golds. London stocks, on the other hand, reflected the lower UK equity market. Rio Tinto-Zinc dropped 9 more to 293p in front of the half-year results which are expected tomorrow. Selection Trust, with interim figures due on Thursday, slipped 4 to 534p. Elsewhere, Minorco hardened 2

to 237p ahead of the unchanged final dividend, while Silvermines advanced 5 to 59p following the doubled interim dividend

FINANCIAL TIMES STOCK INDICES Sept. | Sept. 71,94 72,48 79.75 79.75 78.01 75.11 75.14 78.48 75.60 73.54 72,69 Fixed interest 467.7 467.6 472.1 477.4 175.0 8,053 465.0 ndustriai 205.0 194.8 199.5 207,1 Gold Mimes. 186.4 174.6 177.0 176.9 277.4 Gold Mines(EX-\$ pm) 190,6 6.95 6.98 6.99 6.99 700 Ord. Div. Yield ... 18.11 18.10 17.94 17.80 16.15 14.43 18.13 Ezmings, Yid. 🖫 (full) 6.75 6.77 6.85 6.90 7.88 8.76 P/E Ratio (net) (*). ... 16,511 14,233 14,467 15,549 16,960 15,493 — 72,11 67.67 79.43 68.63 63.89 64,48 Total bergains .--.-Equity turnover £m 10,789 11,411 12,252 15,269 11,952 19,424 Equity bargains total

Base 100 Govt. Secs. 15/10/28. Fixed Int. 1928. Industrial Grd. 1/7/35. Gold Mines 2/9/55. Ex-6 premium index started June, 1972.

SE Activity	July-De	c. 1942					
н	IGHS	AND	LOW	S	S.E. A	CTIVI	TY
	15	79	Since Co	mpilet'n	1 i	Sept. 17	Sept.
-	High	Low	High	Low	l	17	14
Govt. Secs-	75.91 (4/6)	64.64 (8/2)	127.4 (3/1/55)	49.18 (8/1/78)	Cally Gilt Edged Industrials	186.7 125.2	108.4
Fixed int	77.76 (6/6)	66.03 (18/2)	150.4 (28/11/47)	50,55 (%1)76)	Speculative-	45.6 86.2	90.5 74.0
ind. Ord	558.6 (4/5)	445,1 (12/2)	558.6 (4/6/79)	49,4 (28(6)48)	5-d'y Av'r'ge	•	·
Gold Mines	208.4 (6/6)	129.9 (17/4)	44 <u>2,</u> 8 (22/6/76)	43.5 (28/19/71)	Gift Edged	112.0	154.4
Gold Mines	186,4	\$.5e	887.1 (8/4/74)	64.8 (25/8/78)	Speculative-	54.5 84.6	

ACTIVE STOCKS

De	nomin	e- OE	Closing	Change	1979	1979
Stock Thorn Electrical	tion	marks 10 9	price (p) 426 1,190	on day - 7 +10	high 482 1,295	low 334 882
BP GEC Hepworth Ceramic	25p	8	380	-1	456	311
New' New' Seecham Surmah Oil Cons. Gold Fields Marks & Spencer Shell Transport BAT Inds. Midland Bank RTZ CONSTRUCT CI Fate & Lyle	NSP 1252 25 12 25	A 8777777668555	41pm 143 163 246 102 338 293 372 293 91 352 144	132 243932	7pm 189 168 268 134 402 362 455 362 144 415 188	4101 130 82 178 83 278 255 340 226 82 314 127

OPTIONS

reported, while doubles were DEALING DATES completed in Cons. Gold and First Last Deal- Deal-Last Deal- Declara- Settleings ings tion ment Sep. 3 Sep. 14 Dec. 6 Dec. 17 Sep. 17 Sep. 28 Dec. 20 Jan. 7 Oct. 1 Oct. 12 Jan. 10 Jan. 21

RISES AND FALLS YESTERDAY

IMI			
	Up		n Same
British Funds	. 7	78	1
Foreign Bonds	_1	36	_25
	1/7	339 74	893 320 15
Oifs	9	15	15 14
	89	16	44 55
	76	75	55
Totale	484	574	1,370
	British Funds	British Funds 7 Corpus. Dom. and Foreign Bonds 1 Industrials 177 Financial and Prop. 713 Oils 9 Plantations 28 Others 76	Corpus

APPOINTMENTS

ICI Plastics deputy chairman

15 11

Mr. D. W. S. Beynon, head of Portuguese Ministry of Planning the policy groups department of and Finance. Mr. Arturo C.F. January, 1977, Mr. Beynon replaced Mr. Hutchison as head of policy group department when Mr. Hutchison left Milibank to become a deputy chairman of

Mr. M. R. Ashford has been appointed a director and general manager of INNS-WORTH METALS, a Dowty Group Aerospace and Defence Division company.

Mr. Brian Richman has been appointed to the board of DEBENHAMS. He joined the company in 1976 and is responsible for the buying of all non-textile merchandise within the department stores division.

Mr. R. Innes Vann has been appointed to the Board of BOND STREET FABRICS. Mr. R. STREET FABRICS. Mr. R. Parsons has retired from the

Mr. T. D. O'Hearn has been elected executive vice-president, international, of the INTER-PUBLIC GROUP OF COM-PANIES and Mr. C. R. Kroeber has become a senior vice-president,

Mrs. V. Davenport has been appointed a director of DAVEN-PORT KNITWEAR.

Mr. J. R. Naish and Mr. J. K. Carson have ceased to be directors of CAIRD (DUNDEE).

On the acquisition of Brentnall Beard and Co., Mr. E. B. Beard, formerly chairman and Mr. A. Cashmore, who was managing director, have been appointed to the board of Hogg Robinson (UK) part of the HOGG ROBIN-SON GROUP. Mr. E. W. Bell-inger, who held the positions of chairman and managing director of Brentnall Beard (Life and Pensions), has become a member of the board of Hogg Robinson (Benefit Consultants).

Mr. D. A. Howard, managing director of the rugs and furnishings division, and Mr. D. W. Mills, managing director of the Marks and Spencer account, have joined the board of E. FOGARTY AND CO, in addition to Mr. A. H. Holmes, who has been made financial director and continues as secretary.

Dr. A. K. Vakil is to join the Manufacturers Hanover Group and will be appointed an executive director of MANUFACTURERS HANOVER LIMITED. During the past four years Dr. factories Mr. Prior will lun. Vakil has been working with the with the Merseyside Chamb Bank of Portugal and the of Commerce and Industry.

IMPERIAL CHEMICAL INDUS- Mathieu has joined Manufac-TRIES at Millbank, has been the chairmanship of the chairmanship of the division on September 1. In Paris office at Millbank, has been the chairmanship of the division on September 1. In Paris office at Millbank, has been the chairmanship of the division on September 1. In Paris office at Millbank, has been the chairmanship of the division on September 1. In Paris office at Millbank, has been the chairmanship of the division on September 1. In Paris office at Millbank, has been the chairman of the Millbank, has been the chairman of the Millbank, has been the chairman of the division sentative in the Paris office at 20 Rue de la Ville-L'Eveque.

> Mr. Norman Wilson, managing director of EFG (New Lands), subsidiary of the Economic Forestry Group, has been elected national chairman of the BRITISH ASSOCIATION OF LANDSCAPE INDUSTRIES.

> Mr. H. Ross has been appointed a director of LEOPOLD JOSEPH AND SONS from October 1, and Mr J. Titmuss will become an associate director. Mr. N. H. T. Bennett is retiring from the Board on that date.

Mr. Keith Eden has been appointed sales director of GOLDEN WONDER. He joined the company as national sales manager in November 1976 and was appointed general sales manager, and a member of the Board of Management, in September 1978.

LERS LIMITED has been en-larged to represent all Seagram United Kingdom interests and senior management from the U.S.

united Kingdom interests and senior management from the U.S. and Canada. Mr. Melvin Griffin, Mr. Robin Lane, Mr. Ivan Straker

Mr. Robin Lane, Mr. Ivan Straker

To co-ordinate Seagram corporate policy within the UK, the board of SEAGRAM DISTIL-

joined the board and Mr. Ten-

appointed director of public affairs at PERKINS ENGINES, succeeding Mr. Peter Collins who has joined Massey-Ferguson, the parent company, in Toronto, Canada Mr. Beard joins Perkins from Triplex Safety Glass.

Mr Patrick D. Sinclair has been appointed marketing and business development manager of the BRITISH LINEN BANK. He was previously manager of the bank's Glasgow office.

Mr. J. Buckley, Mr. F. Polkey and Mr. J. F. Maclean have been appointed directors of JOHN SMEDLEY, of Matlock, Derbyshire. Mr. Buckley becomes director of management services and Mr. Polkey personnel director. Mr. Maclean, who has been made a non-executive director, is at present on the headquarters. at present on the headquarters staff at Carpets International in

AMALGAMATED METAL CORPORATION has appointed Mr. T. G. Lock as divisional managing director, industrial division, responsible to the group chief executive.

Plea for better caravan sites

CARAVAN PARK owners were

urged yesterday to plough more of their profits back into improving facilities and landscaping. Mr. Michael Montague, chairman of the English Tourist Board, told caravan manufacturers and site owners in Ferndown, Dorset, that the popularity of caravanning had been one of the most striking postwar trends in England's tourism with £240m being spent on caravan holidays last year.

Prior visit

MR JAMES PRIOR, Secretary of State for Employment, will visit Merseyside today to review

New hospital at Northampton

PLANS FOR a £1}m private independent hospital Northampton were completed yesterday, and building work is expected to start this year. The hospital for 30 patients

was the idea of local residents and medical consultants, who believe there is an increased demand for private medical care. The hospital will be run as a non-profit-making organisa-

Grandparents charter begins

gives grandparents the right to apply to magistrates' courts for access to their grandchildren

The "Grannies Charter" that

NEW HIGHS AND LOWS FOR 1979

NEW HIGHS (53) NEW LOWS (34) CORPORATION LOANS (1) CHEMICALS (I) A/S 8 ELECTRICALS (2) STORES (2) WEATWEIL

ELECTRICALS (2)

Lentals Wholesale

ENGINEERING (2)

Tex Abras

INDUSTRIALS (4) HOTELS (1) NEWSPAPERS (1) OPERTY (3) DSTRIALS (4)

RECENT ISSUES

	•				EQUITES	_					
8	Amount Paid Up	Latest Renuno. Date	19 High	79 Low	Stock	Olosing Price	+ <u>-</u> er	Div. P. Or Amount	Times	Gross	9 7
	F.P. F.P. F.P. F.P.	24/8 5/9 10/8	75 90 193 37 39 200	60 80 286 25 30 168	Arrow Chemicals Barlow Hidgs Mercantile House Mettoy Dfd. St. George Assets10p Seltrust A. Soc.	33	7	62.0 72.6 10.72 bdl.0	1.1 2.3	4.5	٥0. 7.8

FIXED INTEREST STOCKS

			40	RIG	HT:	5" OFFERS		
rice	m'unt aid up	Ren	est unc.	1979		Stock	Olosing prices pt	<u>+</u> or
pţ	₹4	•		High	LOW		5≥	1_
14	F.P.	23/8	21/9	19	17	Abwood Machine Tools	18	- <u></u>
īó	F.P.		19/10		125	Bank Laumi		
82	NII	28/9	19/10	64pm	37cm	Bank of New South Wales	64pm	+6
10 \$2 20	Nii	28/9	19/10	12pm	91epm	Benlox	91 ₂ pm	-i1
25	NII	21/9	12/10	240m	17pm	Estates Property Inv	23 pm	+ ž =
1.20				5pm	100	F.U.G.LT	5pm	l∔ī
15 93	F.P.	30:8	21/9		124	Hay's Wharf	136	
93	Nii		15/11	70m	43aom	Repworth Coramics	43 _{spm}	
30	F.P.	-	<u> ,</u>	48		Lennons	41 pm	42
10	F.P.	5/9	26/9		120	Letraset	136	—ĩ
15 I	F.P.		12/10	147	1201-2	Macarthys Pharm	147	
40	NU		26/10	10pm	9pm	Nolton	10pm	
53	NII		;	198pm	168 nm	Pako-Wallsend	190 am	
53 99	Nil	i —	l I	94pm	76pm	Soitrust	94pm	+4
45 I	F.P.	13/9	19/10	224	193	Unitech	220	<u>_</u> 2
th i	FB		17:10		101e	Yorkocken Ime	11	l

the region's unemployment problems with civic leaders, industrial and commercial spokesman and trade union officials. After visiting local factories Mr. Prior will lunch with the Merseyside Chamber of Commerce and Industry.

The charter will apply in cases where a custody order has been made in guardianship proceedings. It will not apply in cases where the marriage of commerce and Industry.

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FT-ACTUARIES SHARE INDICES

These indices are the joint compilation of the Financial Times, the Institute of Actuaries and the Faculty of Actuaries

For rate indications see end of

	EQUITY GROUPS	M	on., S	ept.]	7, 19	79	Fri. Sept. 14	Thors., Sept. 13	Wed, Sept. 12	Tuess, Sept.	Year ago (approx
Fig	& SUB-SECTIONS ures in parentheses show number of stocks per section	todex No.	Day's Change %	Est. Earnings Yield % (Max.)	Gross Div. Yield % (ACT at 30%)	Est. P/E Ratio (Net)	index No.	index No.	Index No.	Index No.	fadex No.
1	CAPITAL 600BS (172)	242.45	-0.6	17.72	5.93	7.24	243.85	244.98		249.82	255.6
2	Building Materials (27)	234.01 389.07	-0.3 -0.6	17.27 23.52	5.85 5.74	7.50 5.30	234.60. 391.26	·235,75 392,86		237,A7 394,A0	22T.9
4	Electricals (7.5)	619.79	-0.5	73.12	3.75	10.19	122.82	528.45		544.74	577.3
5	Engineering Contractors (12)	335.97	-05	21.28	7.20	5.88	337.80	338.73	335.11	347.64	30L5
6	Mechanical Engineering (74)	165.32	-11	20.26	7.05	6.27	167.18	167.44		172.13	203.1
8	Metals and Metal Forming(16)	159.09	-0.2	19.67	9,42	6.32	159.45	159.68	160.78	161.99	182.5
11	(DURABLE) (52)	234.77	8.4	15.66	5.23	8.01	235.77	238.86		247,67	224.4
12	Lt. Electronics, Radio, TV (16)	335.87	-0.4	12.08	4.13	10.68	337.06	342.78	348.79	358.49	275.5
13	Household Goods (13)	143.99	-6.4	19.75	7.58	6.22	144.57	16.93	146.71	148.96	190.0
14 21	Moters and Distributors (23)	110.23 _. 237.11	-0.6 -0.3	24.27	7.60 6.01	5.00 7.47	110.92	111.32	111.97	113.18	Bill
22	Breweries (14)	287.93	-0.5	15.78	5.31	7.56	237.93 289.37	238.38 289.06	249.11 291.68	242.46	224.E
23	Wines and Spirits (6)	331.83		16.53	5.42	7.52	331.91	333.20	.333.56	294.00 337.45	297.3
24	Entertainment: Catering (17):	308.49	0.6	16.06	6.60	8.17	310.38	318.02		319.35	280.3
25	Food Manufacturing (1.9)	208.68	+0.1	19.05	6.54	6.52	208.53	219.64	,	213.49	220.7
26	Food Retailing (15)	305.02	-0.5	13.36	4.20	9.62	306.47	307.69	309.28	332.03	235.94
32	Newspapers, Publishing (12)	426.94	-0.3	22,39	6.82	6.15	428.11	425,42		428.46	404.00
33	Packaging and Paper (15)	132.53	+0.6	22.28	8.45	5.78	131.69	130.62		131.36	100.11
34 35	Stores (41)	236.27 155.04	-0.8 0.3	12.50 23.67	4.41	10.48	238.29	239.56	241.50	243.67	213.67
36	Tobaccos (3)	245.99	_+0.4	23.17	9.92 9.84	5.33 4.87	155.49 244.97	155.59	.156.32	157.75	196.6
37	Toys and Games (6)	71.23	+0.5	24.26	9.46	5.23	78.88	243.38 73.41	245.94 71.24	248.32	254,9 124,5
41	OTHER GROUPS (99)	205.33	-0.6	15.58	623	7.88	206.47	206.04	206.82	72.89	219.3
42	Chemicals (18)	287,35	-0.4	17.74	6.72	6.57	288.59	288 33	290.09	292.22	305.77
43	Pharmaceutical Products (7)	228.13	-0.6	32.90	5.06	10.40	229.62	227.93	228.53	230.79	28834
44 45	Office Equipment (6)	120.86	-7.0	16.53	6.95	7.56	122.11	122.89	121.74	123,65	148.90
46	Shipping (10) Miscellaneous (58)	461.25 242.61	-0.4 -0.5	11.58 16.08	6.50 6.18	17.70	463.09	462.71	463.06	465.49	440.14
49	INDUSTRIAL GROUP(494)	237.87	-0.5	16.60	5.98	7.97 7.54	243.95	243.79	244.71	246.79.	233.57
51	Olis(6)	641.07	+0.7	17.65	7.56	6.09	238.96 636.76	239.55	241.29	243.92	238.54
59	500 SHARE INDEX	270.59	0.3	16.78	6.26	7.24	271.38	634.86	639.00	637.41	54.2
61	FINANCIAL GROUP(716)	194.18	-0.4		5.46	7.24	195.05	271.71 193.49	273.65	276.80	241.8
62	Banks(6)	222.68	-1.0	37.13	5.75	3.44	224.92	222.65	193.63 228.47	194.62 223.81	198.7
63	Discount Houses (10)	257.98	_	. —	7.12	_	257.98	257.27	259,45	259.45	211.6
64	Hire Purchase (5)	172.53	+0.2	19.23	5.03	6.66	17212	171.40	17351	173.41	145.00
65	Insurance (Life) (10)	162.10	-0.6	 - '	6.27	– .	163,03	162.50	162.89	164.99	145.41
· 66 67	Insurance (Composite) (8)	127.87	-0.3		7.35		128.28	12633	125.82	129.65	133.39
68	Merchant Banks (14)	283.94 101.34	+0.4	17.63	6.46	8.11	282.69	277.78	276.42	200.51	352.24
69	Property(43)	364.53	-0.2	3.41	5.43 2.59	42.86	102.36 365.27	162.55	103,89	103.64	41,57
70	Misrellaneous (10)	123.85	-0.1	15.03	7.15	8.53	365.27 123.95	365.26 123.62	366.20	368.93	2447
71	Investment Trusts(110)	216.23	+0.3		529	- 9.33	215.61	215.23	214.87	124.80	1119 74.0
81	Mining Finance (4)	128.99	-15	15.44	5.86	7.94	130.96	128.68	131.62	235.77	112.71
91	Overseas Traders (20)	342.89	_	15.32	7.A0	7.97	342.77	343.54	343.23	133.19 345.25	33131
99	ALL-SHARE INDEX(750)	249.19	0.3	_	6.08	• =			25114		
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16	Investment Trust Prefs. (15)	61.28	15.09	51.46	51.47	51.72	51.50	51.50	51.63	51.53	51.87
17	Coml. and Indl. Prefs, (20)	70.83	12.67	71.19	71.19	71.29	71.52	71.52	71.28	71.98	71.91

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No need to modify EMS, say Ministers

BY GUY DE JONQUIERES, COMMON MARKET CORRESPONDENT, IN BRUSSELS

EEC FINANCE Ministers that any prolonged discussion foreign exchange markets.

decided yesterday that the European Monetary System was even if it did not involve a
functioning satisfactorily and shift in the exchange rates of breaking out between required no technical modifica-

They agreed, as a result, to end early the formal review of the metsysh chwiaheaiol... the system which had been scheduled to take place six months after it was launched on

March 13 this year.

The speed with which the ministers reached this conclusion, after only 2 few minutes discussion, surprised observers in Brusels. Yesterday's meeting had previously been intended merely to allow for an interim assessment of the system, pend-noted ing a fr Scale review next the

the North Sea as a feedstock.

The company is believed to

have been approached by

Cromarty Petroleum, which is

owned by the Daniel K. Ludwig organisation and already has

planning permission to build an

oil refinery at a Cromarty site

thought to be seeking a joint

said to have offered its existing

site to Dow in return for an

interest in any ethylene plant

Continued from Page 1

moreover, some time off.

Sterling slide

The unsettled British labour

scene has not helped, and the result has bene that some of

the speculative inflows of the

early sumer have been with-

drawn and private-sector capital

has been switched overseas, notably to repay foreign cur-

rency loans, following the eas-

ing of the exchange controls.

The authorities do not appear

fall in the rate especially as

some officials—and many indus-

trialists—were concerned about

the impact of the earlier rise in

the pound on the competitive

belief that longer-term pres-sures, such as North Sea oil,

three rail unions on introducing

Weather

CLOUDY with rain in places becoming brighter with sunny intervals.

London, S.E., Cent., S. England

Cloudy with rain in places, sunny intervals. Max 19C (66F). E. Anglia, Midlands Cloudy, rain in places with

brighter intervals later. Max 180

Dry at first with

BY PHILIP BASSETT AND LYNTON MCLAIN

Dow said yesterday that

that may be built there.

Petroleum

Cromarty

participating currencies, could exchange markets.

According to M. Rene Monory, the French Economics Minister. general view at the meeting of the "Big Five" Finance Minis-ters in Paris last weekend. The meeting felt that the economies of the world's major industrial countries were proceeding satisfactorily towards opnverg-

He said the ministers had noted that the payments of all the major industrialised

Its chairman is Sir John Toot- there.'

hill, former main board direc-

tor of Ferranti in Edinburgh.

plant at Cromarty, it had been companies which might be However, a smaller plant of looking at various opportunities interested in buying ethylene if between 250,000 tonnes and

trend, largely to help contain

inflation. Consequently, if the

pound fell too far for a long

time the authorities might take

action, not necessarily through

intervention and possibly even

involving a further tightening

foreign exchange markets were

yesterday quieter than at the end of last week with a slight

Otherwise, the main activity was again in the gold and silver markets. There was further

strong demand for gold which

The spot price of silver

Apart from sterling,

gas as petrochemical feedstocks. Industry reports suggest that first to be followed by The group is anxious to have one of these may be Hoechst, if demand increased.

although it had "no specific understood to have had discus- present

plans" for building an ethylene sions with several chemical

the near future; a decision is, pound relative to its previous

worried about the consequent easing of strains within the

position of British goods.

There is a general commitcle closing high of \$353; after ment to free floating and a reaching \$354; in the early

will underpin the rate.

However, the Government's rose 32.35p to a new fixing peak tight monetary policy rests on the desirability of a strong closing at over 640p.

LONDON TRANSPORT has one-man train operation on two

reached agreement with the Underground lines.
three rail unions on introducing London Transport said yes-

afternoon.

of credit.

for using North Sea oil and a plant were built.

there is a UK interest in any it

petrochemicals development at that."

studies Scottish site

including plastics—rather than "would be interested in any having to buy them in from source of reasonably priced other chemical companies." It stressed that it was

Another company interested "not committed" to buying in Cromarty is Highland Hydro- ethylene from any future plant

carbons, a British company set at Cromarty but said that "like

up just over a year ago by a any other major we would be group of Scottish businessmen. interested in any development

The group is thought to be had discussions with Highland interested in ensuring that Hydrocarbons but admitted that

Cromarty. World scale plants usually
It is thought that Highland have a capacity of 500,000
Hydrocarbons does not yet have tonnes a year and would cost

a site at Cromarty but it is around £400m. But there is at

Industry reports suggest that first to be followed by a second

He denied that there was any danger of an interest rate "war" breaking out between the

world's major economies.

All the participants at the weekend meeting had expressed concern about rising inflation and had agreed that the best way to fight it was through tight monetary policies.

In spite of the squeeze on

interest rates by the U.S. Federal Reserve Board, M. Monory forecast that the cur-

Sir Geoffrey Howe, Chancellor of the Exchequer, said after yesterday's meeting in Brussels that the decision to end the EMS review early would not countries were moving back into affect the Government's plans belance, and that there was no to examine the possibility of reason for any upheavals on the joining the system.

would not confirm that it had

capacity in ethylene in Europe.

300,000 tonnes might be built

Continued from Page 1

Telephones

from between 25 and 50 per

· Coin box charges will go up

from 2p to 5p, but the time allowed for local calls will

increase from two to three

minutes, while time for trunk

calls will also be extended in

proportion.
The Post Office expects to

gain £78m in the current finan-

cial year from the second stage

increases, with additional £414m

expected in 1980/81. Taken

together, the corporation expects to benefit by £92m in 1979/80 and £495m in 1980/81

The total is 12.5 per cent of

the telecommunications busi-ness, current revenues, which compares with a 60 per cent

rise in the retail price index since October 1975, when major increases were last made.

faced increases in pay and other costs of some £300m in 1979/80

and a further £500m in 1980/81

terday that the agreement on

single-manning of manually-operated trains would reduce the number of last-minute can-

cellations, often caused by one of the two-man crew of driver

Circle Line and the Hammer-

Tube trains pact

The corporation has

from all the increases.

telex rentals

"talked to companies like

"It would be most unfair to the new management and to the employees of Chrysler if my

Mr. Riccardo has been com-

Riccardo seeks early retirement from Chrysler

BY JUREK MARTIN, U.S. EDITOR, IN WASHINGTON

man of Chrysler, announced in with a suspect heart condition. Detroit yesterday that he will ask his Board of directors to grant him instant and early retirement so as to improve the chances of the ailing car company securing substantial federal loan guarantees.

It is assumed he will be succeeded by Mr. Lee Iacocca, the company's president. Mr. Iacocca's contract with Chrysler, it is understood, specifically stipulates that he should take over the company in November.

Mr. Riccardo's decision to seek early retirement comes immediately after the U.S. Government had refused the company's first request for \$1.2bn in immediate and standby loan guarantees designed to stave off the threat of bank-

In his statement, he said that there was "no question that, even though I have actively addressed the major problems facing Chrysler, in the minds of many I am closely associated with the past management of a troubled company."

continued presence as board chairman should in any way hinder the final passage of our request for federal loan guarantees," he said.

pany chairman for nearly four years and was, of course, a central figure in negotiations with the British Government some two years ago for financial assistance to support Chrysler's operations in the UK-facilities which, along with Chrysler's step down early so as to facili other European operations, the tate negotiations for federa company subsequently sold to

It is true that, as cited in his statement, Mr. Riccardo has been suffering from ill health

MR. JOHN RICCARDO, chair- and was hospitalised last May He was reported to have offered to retire early a few weeks ago Nevertheless, at the sam time there have been rports of discontent both inside Chrysler and the U.S. Government about the way in which Mr. Riccardo

has been conducting negotia-tions with federal authorities. Mr. G. William Miller, the Secretary of the Treasury, was dismissive about the inadequacy of the company's first request for aid over the weekend, both because it was felt Chrysler was asking far too much from the Government and because the company had not tried hard enough to generate support from other private sources. Mr. Iacocca was hired by Chrysler as president last year after being dismissed by the Ford Motor Company. At Ford it had appeared he was being groomed ultimately to succeed Mr. Henry Ford the Second as

company chairman.

At that time, Mr. Riccardo said he expected that Mr. Iacocca would take over the company in about a sear-a promise for which Mr. Iacocca secred a contractual pledge.

Much of the retrenchment programme Chrysler had under taken in the past year has been attributed to Mr. Iacocca—though it is also said that privately, he has complained that he was not previously aware of the gravity of Chrysler's financial and management position. What was not immediately clear yesterday was whether either the board of Chrysler or the U.S. Government had put pressure on Mr. Riccardo to step down early so as to facili-

assistance—or whether Mr. Riccardo took his action voluntarily.

Chrysler told to look harder
for aid—Page 4.

GKN in talks with French Unilever

BY JAMES BARTHOLOMEW

GUEST KEEN and Nettlefolds company which also has autois negotiating with Unilever to buy a majority stake-possibly around 80 per cent—in Unigep, a French distributor of automotive and industrial com-

The move would be a further stage in GKN's recent series of moves into the automotive parts distribution business, giving it its first Continental involvement in this field.

Unigep, with 1978 sales of £30m, employs 750 people and has 26 outlets fairly evenly spread through France. Its profit level has not been dis-closed, and there were no indications yesterday as to how

In February GKN bought ted to automotive parts distriwhich has an annual turnover of \$100m (£46.5m) and is No. 4 the U.S. automotive parts

distribution business. the busines
In May the group made an Unilever
agreed £40m bid for Sheepbridge Engineering, Derbysome smale
shire, the diesel components company.

much GKN was proposing to pay for its projected stake in the company.

motive parts distribution bran-

Last month GKN said it was talking with Armstrong Equipment about buying some of its automotive parts distribution subsidiaries.

Behind GKN's major run of equisitions in automotive parts distribution this year is the company's belief that, with car owners now tending to keep their vehicles longer, and thus needing more spare parts, it can secure considerable growth

The moves fit in with GKN's manufacturing activities, giving it more outlets for the replace ment components it makes. Unilever explained the intended sale yesterday by saying it had not been deeply commit-Industries Corporation, bution, and felt that the market was getting more difficult.
Unigep made more sense as

part of a group specialising in the business. Unilever may not sell its entire holding, and there are some small shareholders in the

Community to act on bearing dumping

BY HAZEL DUFFY, INDUSTRIAL CORRESPONDENT

THE EEC Commission is predumping against Japanese manufacturers of bearings, and is also to bring a case against

The move follows intensive monitoring of bearing prices in western Europe by the Federation of European Bearings Associations, which claims that Japanese roller bearings coming into the EEC last year were more than 35 per cent cheaper than in the

In March, the European Court ruled in favour of five Japanese companies which had been the subject of an earlier EEC anti-dumping case on

mated £2.5m in levies on the

difficult trading conditions for of the manufacturing countries. In the Past few months there have been signs of an improvepatterns and the pricing policies of the leading manufacturers. SKF, the Swedish-based international group, recently an-

half of this year. FEBMA continues to argue. however, that the increase in

yen. It maintains that the dump-

The volume of standard bearconstitute increased THE LEX COLUMN

How Fred failed to make the grade

Treasury gold auction, a month ago, the gold price closed in London at \$298i. The next day the Dresdner Bank bought vir-tually all the gold on offer for a cool \$217m and the gold price has not looked back since. Last night gold closed in London at \$353. The Swiss banks hardly dare let Dresdner embarrass them a second time.

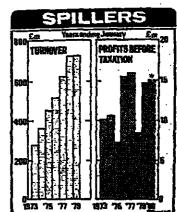
The recent histories of Decca and Spillers underline some profoundly unsatisfactory profoundly unsatisfactory aspects of the UK capital market. Shares in Decca, which has been in visible decline for some years, bounded ahead on bid rumours yesterday, and are now above the level at which they stood last week when the grim trading figures were announced. In a grotesque way, losses have turned out to be "good news" because they have increased the chances of an opportunistic takeover bid.

Spillers is already facing just such a bid. Its shareholders have stand by without comment while the group has contracted in real terms over a period of vears. Without a blush, the management which substantially increased the group's exby a takenver in 1972 is able to imply that the closure of the entire baking business six vests later was a tactical victory. There is no suggestion in the defence document that the problems of recent years have brought about any fundaimprovements Spillers organisation.

But although there is good reason to be distillusioned with Spillers, there is little sign of any enthusiasm for the Daloete offer. Dalgety's own shareholders have been uneasy about the move, and Spillers' shares stand nearly a tenth below the value of the offer. Dalgety has expanded at a pectic pace in recent years, and although it can point to some sound achievements in the UK, it is by no means clear that it has talent to take on Spillers. And the bid is not startlingly generous: Spillers' shares are late biscuits, that came in the already on a double figure divi- second quarter. The depletion dend yield, and would probably not fall all that far in the bsence of an offer. So shareholders are now in a

position of having to decide between uninspiring alterna-tives. Will Fred the flour grader plus the inertia of 35,000 shareholders (only about 30 per cent of which are insti- Keeblers (which had a good, probably next year as well.

Index fell 1.7 to 466.0



tutional) win the day? It seems a pretty odd way to decide the date of an important business

At least there need be no great hurry to decide by the first closing day on Friday. Dalgety is not going to give up easily especially with its advisers, Lezards, on the hook. It might even be persuaded to they yield a prospective 6 per improve its terms a little. It cent and trade on 10 times will be worth waiting, too, to see if Dalgety's own shareholders have anything to say on the subject at their special meeting next Monday. But unless Spillers can produce a more convincing defence than it has so far, in the end it will probably be best to accept

United Biscuits

The most surprising feature of United Biscuits' interim results, which with a fall in pre-tax profits to £16.1m from £18.6m are a little on the low side is that Sir Hector Laing. UB's chairman and the scourge of the secondary pickets, had under-rather than over-estimated the effect of the haulage strike on profits, Rather than £3m lost, with the chance of some recovery, the final net

the strikes left UB in poor shape carrying costs—three month to face the strong recovery of money is yielding 1 per cent demand, particularly for chocoof stocks goes some way towards explaining the higher tax charge and lower interest costs -- UB's cash was piling up, and fixed asset spending was falling behind plans of £50m for 1979. But even adding back this £34m, and £0.8m for currency adjustment to the profits- of

dull, particularly as there was a first-time contribution of £im or so from the Pizzaland chain. UK biscuit volume was down during the period, but UB claims its market share—at least in branded biscuits—held steady despite Associated Biscuits' volume gains. The snack food side was healthy but Wimpy and the frozen food business are still contributing very little.

The second haif should show

a useful improvement; the company is looking to match last vear's 1422m, and perhaps expects more. The weakness in snack and chocolate biscuit sales immediately after the VAT increase has abated, and with the Spanish business now making small profits the fimiless in Europe in 1978 may be distincted. But unless stelling eliminated. But unless sterlincontinues to fall, the use of average exchange rates will mena a further dent in Recbler's sterling contribution The shares, though, are still looking to 1980 and heyond when UB should enjoy the payoff from the heave investments

cent and trade on 10 times fully taxed earnings.

market was in a nervous mood

Gilt-edged Once again the gilt-edged

pesterday. The pound, having briefly touched \$2.16 in the morning fell quickly to \$2.1260 before recovering to \$2.1515. Prices of long dated stock closed £‡ lower and the market hadly needs some good news if interest in the stranded tap stocks is going to be revived. The combination of rising U.S. interest rates and the worrying buoyancy of UK bank lending means that hopes of an early cut in Minimum Lending Rate are fast receding. Aiready there are signs that the money market yield curve is beginning to adopt a more normal shape with one year rates edging damage is about £31m. higher. Meanwhile, any punters
What seems to have happened still left in the gilt-edged is that the loss of production in market are saddled with heavy

> more than the yield on high coupon short and long dated Today's trade figures are awaited with some trepidation over sterling's role as a petrocurrency has vanished as the market has digested the fact that far from boasting a balance. of payments surplus, Britain will be in deficit this year, and

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News Analysis, Page 6 اعكذا سا الأجل

and guard being ill. Trains operated by one man alone will begin running on the intervals, some rain later. Max smith and City section of the S.W. England, S. Wales

Becoming brighter and dry.

Max 17C (63F).

Channel Isles Outlook: Rain or showers with sunny intervals. Temperatures sunny near normal. WORLDWIDE.

Cloudy, occasional rain or drizzle. Hill and coastal fog becoming brighter, Max 18C

Aberdeen, Moray Firth, N.E.
Scotland Scattered showers, bright or

intervals. Max. 15C

for one-man operation since 1968. A fresh impetus toward it came this year as part of a pay award by an arbitration panel set up after the National Union of Railwaymen, the largest union involved, called an indefinite strike by its 15,000 Tube members. Under the agreement all one-

man operators receive the same rate of pay as automatic train operators on the Victoria Line, £89.42 for a 40-hour week. Tube drivers now are paid £77.71, and guards qualified as drivers £62.72.

London Transport put the cost of this payment at more than £1m a year, though it claimed this would be offset by manpower savings from one-man

Metropolitan Line early next year, though if both manage-ment and unions judge the experiment a success one-man operation should spread next to the District Line and the rest of the Metropolitan Line, and eventually to all. The effect of the agreement on staff, particularly on promo-tion prospects, will be reviewed East European manufacturers. by the unions in six months.

London Transport has pressed Manufacturers' Japanese market.

> bearings. The Court decided that the EEC Council of Ministers was

wrong to have imposed an esticompanies (even though the levies were subsequently ings coming from suspended), when the Japanese Europe at prices who companies had already agreed dustry maintains to raise their prices by 20 per dumping has

European bearings paring to bring a new case of industry has suffered from several years, which has led to extensive rationalisation in most ment, however, both in demand

nounced an increase in profit margins on bearigs from 2.9 per cent to 3.8 per cent in the first

the price of Japanese bearings in western Europe has not reflected the appreciation of the ing margin is even greater than in 1977 when the Commission imposed a Suspended anti-dumping duty.

ings coming from eastern Europe at prices which the insignificantly.